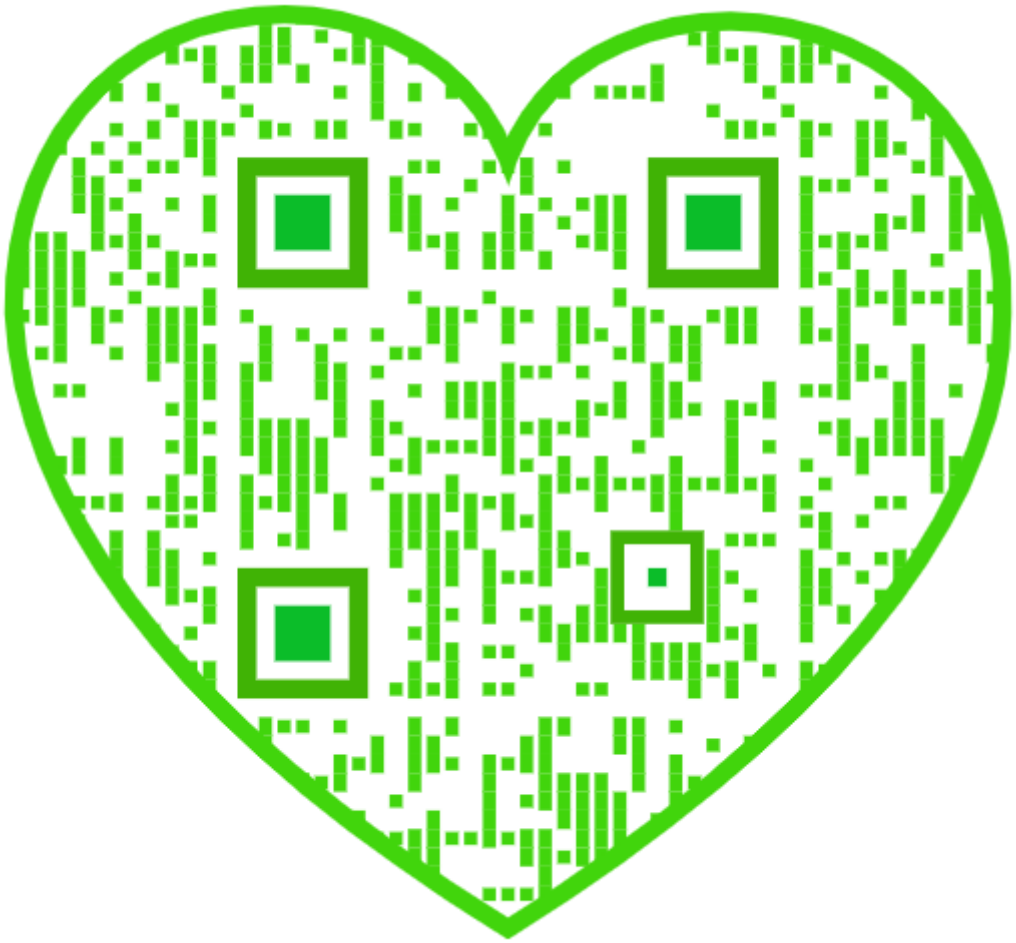

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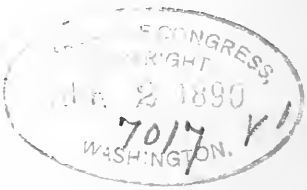

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PREFACE TO THE SEVENTIETH EDITION.

For the fourth time an entirely new set of plates has been made for this volume. The advantage of such large sale as to make this possible is nowhere more manifest than in a book of methods. Whatever it may have been in the past, the teaching of to-day is progressive, and the methods of 1877 are not altogether the methods of 1890. Particularly in Drawing and in Penmanship has such advance been made that it seemed necessary to have those chapters entirely rewritten. For the former a condensation has been made of the illustrated articles in the *School Bulletin* by Mrs. Mary Dana Hicks, joint-author of the series of drawing now in most general use. For the latter a most valuable illustrated chapter has been prepared by Chas. R. Wells, director of penmanship in the schools of Syracuse and of the Chautauqua Assembly.

Except in these two chapters, the changes are mainly of arrangement. The book was originally made up of the author's notes as an institute conductor, and hence contained many repetitions. In this edition all that was anywhere said on a particular topic has been

brought together, and by the insertion of topical side lines has been made easy of reference.

But as a whole the book is still as the author originally wrote it. What there is in Prof. De Graff's method of presentation that so reaches and holds the young teacher, it might be hard to say; but superintendents everywhere agree that where other books are bought and put away, the "School Room Guide" is bought and kept on the desk, for daily use.

There is probably not a county in the United States where this book is not known and valued. In this new edition, the responsibility for which has through the death of the author fallen upon the publisher, the latter hopes that all the features that were most worthy have been retained, while the additions and changes will make it still more available in the school-room.

SYRACUSE, *February 22, 1890.*

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READING.

I. METHODS.

That teachers may distinguish good methods we begin with descriptions of the following: Some are old, long, unnatural and tedious, affording little but monotony to stimulate the child's desire to learn. Others are shorter, but none the less unnatural and arbitrary. Some are unphilosophical, and leave no cause for surprise that so many children flounder at the very threshold of knowledge, the very place that should be made most attractive.

Method of teaching reading.

1. The Word Method.
2. The Object Method.
3. The Phonetic Method.
4. The Phonotypic Method.
5. The Wood-building Method.
6. The Look-and-say Method.
7. The Sentence Method.
8. The Drawing Method.
9. The A b c or Alphabetic Method.

How to Teach Reading by the Word Method.

Directions.

1. Call the attention of the children to some object.
2. Ask questions about the object.
3. Talk to the children about the object.

4. Ask the children to give the name of the object.
5. Show a picture of the object.
6. Make a drawing on the board of the object.
7. Print and write the word on the board.
8. Let the pupils copy the word on their slates.
9. Group words into phrases.
10. Group words into sentences.
11. After the pupils learn one sentence, use it in making other sentences.
12. Select words that are the names of familiar objects.

Cautions.

1. Present only two or three new words for each lesson.
2. Teach the children to recognize words as signs of ideas.
3. At first give no attention to elements of which words are composed; as the elementary sounds, and letters.
4. Attempt no spelling of any of the words.

Results.

1. Knowledge.
2. Naturalness of expression.
3. Fluency.

Remarks. In the earliest stages of the course, teaching precedes learning; the child's steps are guided and upheld by the teacher; his way is made clear for him, and his difficulties are anticipated. It is essential that the child shall have a liking for the work in which he is engaged. It is the spirit of the teacher rather than his methods that ensures success in teaching little ones to read.

In the word method, we begin by teaching words, leading the children to recognize them as wholes. This method is now used extensively; it was the method used by the race in developing the language. Nature is the guide of both parents and children. There is a fitness in her means that secures, in the most simple way, the most desirable ends. We have become artificial, mechanical in teaching; we need to retrace our steps and imitate nature's process.

Follow Nature's Plan.

Nature begins with objects—the idea first, its signs second, and the ability to represent the idea of its signs third—the natural order of learning language, and the natural order of using it, are made to correspond. The word soon becomes familiar to the child. It is the object of thought.

The word method begins with words, not with letters. In the word "hat" it does not teach first the letters *h, a, t,* and say *"hat";* but it takes the word and calls it *"hat,"* without any reference to the fact that the printed word is made up of letters.

The thing before the sign.

The thing before the sign is the rule in teaching. Words that are not signs of things can be illustrated by examples: for instance, *white,* by showing the *color; runs,* by showing the *act; on,* by showing the *position,* etc. By this method it will take no more time to teach the word, its elementary sounds, letters and spelling, than the letters alone by the old way of teaching the letters first.

Hints.

Let the teacher aim to get the children to talk freely. If possible, present a real object to the class: a picture, or a drawing. Ask questions to draw out

what the children know of the object. You now have excited an interest; show the class the word; write or print the word under the drawing; tell the children that the word is a picture of the real object; require the children to pronounce it several times; print the word in several places on the board; and require the children to pronounce it in concert.

In like manner teach quality words, for example, "red"; show an object which is red, and print on the board the words, "a red cup," and request pupils to read the phrase. That the plan of teaching children to read by the word method may be made more clearly understood and readily applied, the following directions are given:

How to begin.

Let the teacher begin by a familiar conversation with the children about some object. It is of little importance what words are taught first, if the words are short ones and familiar to the children by use in conversation, and the object which the words represent and the pictures can be readily shown. The object of the talk and questions should be to put the child in conscious possession of a knowledge of the thing, or of what the word represents.

When the child has this knowledge, and not before, the teacher may show him the sign, i. e., the word.

As soon as the word is presented the child should print it on his slate. A little practice will enable the child to print it rapidly. The printing will fix the word in the mind.

In many schools the children are taught from the first to write the word; not permitted to print it, for the

reason that in after life we use script, not the printed forms.

If the pupils are receiving, as they should be, daily lessons in writing, they will soon be able to copy the sentence from the board on the slates.

This exercise is important not only on account of the practice in writing which it affords, but for giving the children something attractive and useful to do, and preventing the mischief that comes from idle hands. The teacher should rule one side of the slate with some sharp instrument, and the children should be encouraged to do the work neatly and correctly.

The child knows nothing of vowels, consonants and articulation; nothing about letters, when he looks upon the printed page. Letters and sounds.

The word, the word! This is the object of thought. The printed word is the object presented to the mind of the child. It is presented through the eye. It is known by its form; the child learns to recognize the words by their forms, as it learns to recognize other objects. The names of letters are no guides to the correct pronunciation of words, and they can be of no possible service to the children in learning to read.

After the children have made considerable progress in reading words, the teacher may call their attention to the elementary sounds of which the words are composed.

Some teachers combine the Word and Phonic Methods, and after the word is learned by sight, teach the elementary sounds. This is not necessary to this plan of teaching reading, and if the teacher thinks best may be omitted. Word and Phonic Methods combined

Children have been taught to read in a very few weeks by this plan, and we would encourage primary teachers to try it. It is useful in cultivating distinctness in articulation, and in aiding the children to acquire new words.

The names of letters.

When the pupils have been made familiar with the words that have been taught by sight, so as readily to pronounce them, and give their elementary sounds, the teacher may call the attention of the children to the names of their letters; but as a rule the children will learn the names of the letters soon enough, without any help from the teacher.

As soon as the letters are taught, by all means show their use by putting them together and making the word; use the same letters in forming new words.

There is but little variance between the Object Method and the Word Method. The introductory part is the same, and both should be combined in order to interest the children. Whole words should be presented, and the pupils required to pronounce them, without spelling, by sight. Subsequently the analysis of these words into sounds and letters may be taught.

First, teach words that are the names of things; then words representing the names of qualities and actions. The little connective words and those that are used as substitutes for other words, should not be taught until they are needed in the construction of phrases and sentences.

We will briefly refer to other methods used in teaching children to read.

The Object Method.

The children's attention is first directed to some object with which they are familiar by sight, name and use.

The teacher shows the object to the children, and the name is given by the children. If they cannot give the name, the teacher tells them. The teacher presents a picture of the object, or makes a drawing of it upon the board; then the name is plainly written under the drawing. The pupils are now taught to distinguish from one another the object, the picture of it, and the word representing it.

The following order should be observed in teaching beginners to read by the Object Method, as used by N. A. Calkins, Assistant Superintendent of Schools in New York city.

Steps in the Object Method.

First Step.—Teach whole words by sight that are already known by hearing, as signs of objects, qualities, and actions.

Second Step.—Teach the analysis of the word by its elementary sounds.

Third Step.—Teach the analysis of the word by the names of its letters, and their order in spelling it.

Fourth Step.—Require the pupils to pronounce the word; sound it; spell it.

Fifth Step.—Group words into phrases and sentences.

The children will learn new words by comparing the known words with the unknown.

The Phonic Method.

Every intelligent mind will welcome any means by which loose and bad habits of enunciation may be cast off, and correct ones formed in their stead.

Children who have been taught and accustomed to say *judgmunt* for *judgment, read'n* for *reading, an* for *and, muss* for *must,* pārent for pârent, păss for päss, will not be likely, by a single effort, to set their speech right. By well directed and persevering effort they can do it; with proper guidance and encouragement they will do it. A thorough knowledge of the elementary sounds is essential to success in the Phonic Method. It must be made a careful study and the teacher should master it.

The Phonic Method consists in making the learner acquainted with the powers of the letters, so that when words are before him, he may, by uttering the sound of each letter in succession, construct for himself the sound of the word. Such a method says John Gill, of the Normal College, Cheltenham, it is impossible to have in a language like the English. A purely phonic method is possible only where the number of letters and elementary sounds correspond, where the same letter always represents the same sound, and where, in the spelling of words, the numbers of letters and of sounds agree. But these conditions in English are impossible. The letters are but five-eights of the elementary sounds; one letter often represents two or more sounds; some sounds are represented by more than one letter, and often letters are found not sounded at all.

The principal advantage of this method is, that it puts into the hands of the children a key by which they may be able to help themselves. The elementary sounds must be known before the children can take a single step in advance, except as he is assisted by the teacher.

The best results have been gained by the primary teachers in using the Phonic Method as auxiliary to the Word Method, but not as a substitute for it. The word must be the unit of thought; it is the natural way to begin with the units of language, which are words. Language deals with thoughts; words are symbols of thought.

Another advantage is that it teaches the children from the beginning to enunciate distinctly; many other advantages are gained by combining the Word and Phonic Methods.

Letters are elements of the forms of words; simple sounds are the elements of the sounds of words; neither of these elements are units in language. The child must know the sounds and the names of the letters; through these aids it may be able to help itself. This process, however, is not adapted to the child, until it has learned some words as wholes, as units of language, as the representations of thoughts.

With all plans that have been considered, let the teachers bear in mind that children can never learn to read with any degree of ease until they are able to call instantly the words in the sentence without stopping to analyze them.

By the method suggested, children are enabled to read with more interest and expression in a far shorter time than by the plans heretofore generally pursued.

The Phonetic Method.

The Phonic and Phonetic Methods are distinct; the phonetic method provides signs to represent all the sounds of the language, using the common letters each

to denote but one sound of that letter, and providing slight modifications of these letters to denote other sounds. The method is used with success in those schools provided with Leigh's Phonetic Reader.

The Phonotypic Method.

This is another form of the Phonic Method, providing a character or letter for each sound in the language.

The pupil is required to learn forty or more letters in place of twenty-six.

There are those who claim that pupils will learn both methods, and become able to read better thereby in a given time than they usually do when taught entirely from the common print.

This method may be used with success; but, as the schools are not provided with books on the Phonotypic plan, we will not enlarge upon it.

The Word-Building Method.

The plan here is to begin with words of one letter as A, I, O, and gradually form new words by prefixing or affixing single letters. The child is taught to pronounce first the word, then the letters that form it. Separate letters of the alphabet and spelling are taught by asking questions similar to the following:

"What letter is placed after *a* to form *an?*"

"What after *an* to form *and?*"

"What before *and* to form *land?*"

The Look-and-Say Method.

By this method after the children have mastered the alphabet, all words are read without spelling.

Attention is directed to each word as a whole, and its sound associated with it as a whole.

In no case is the learner allowed to spell a word that he may afterwards recognize and pronounce it.

The following advantages are claimed in favor of this method:

First.—For mastering the word by the eye.

Second.—For recognizing the word in the sign, and for acquiring practical acquaintance with the number of letters and syllables.

Third.—For suitability to the circumstances of common schools.

The above reasons must commend this method to many teachers who have not received special training. It best meets the requirements of class instruction. In the class, the aim is to bring out the energies of all. This is done through emulation and self-respect.

Now when spelling is permitted, a child has little inducement to exert himself to retain a word once seen; but let spelling be forbidden, let the remembrance of the word be thrown on the eye, and emulation will stimulate some to retain it, and to give it when called upon; and self-respect will be appealed to in the others, not to require always to be told by a sharper companion. It is a method which requires no special preparation like the phonic, and therefore may be entrusted to an inexperienced teacher.

The Sentence Method.

In this method the teacher does not begin with the letters, nor with separate words, but with words in combination, that express a thought. Using this combina-

tion of words as a unit, the separate words are learned, as the separate letters are learned by the Word Method, that is, without special effort and almost, if not quite, unconsciously.

In teaching by this method let it be the aim of the teacher, to teach not so much separate sounds, letters and words, as the proper expression of thought.

The letters and words must be known, but as they will necessarily become known by this method without much special teaching, they are regarded and treated as of secondary importance for the time being.

The attention of the children should be directed to the thought. To this end real objects and facts are at first employed to appeal to the senses and to demand of the child words to give the thought oral expression.

In learning to talk, children acquire ideas from objects, and then seek language to express them. it requires a combination of words to express a thought, or to give birth to a new idea or thought.

The advantages claimed for this method over others are:

First.—It is a natural way—teaching the child to read very much as he learned to talk.

Second.—The attention of the child is directed to the expression of the thought; hence he reads easily and naturally.

Third.—It makes the child thoughtful, and hence cultivates his intelligence.

This method was first systematically used in the schools of Binghamton, N. Y., and is fully explained in "The Sentence Method of Teaching Reading," by G. L.

Farnham, former Superintendent of Schools, price 50 cents.

The Drawing Method.

As all words are made up of the letters of the alphabet, and differ from each other only in the order and number of letters, the first step in teaching reading, whatever may have been the subsequent method, has been to teach the children these characters.

Many have been the devices to accomplish this, but this method we will present as one of the most successful. It is the Drawing Method; that is teaching the child first to draw the letter, and then learn its name.

The process combines from the first the two great instruments of teaching and reproducing—the former giving knowledge, and the latter testing it and giving skill.

Since curiosity, which is so strong in the child, seeks its gratification in finding new forms, this method of drawing can be used as a means of training his eye to quickness and accuracy of observation. Lessons should be given upon straight, curved and crooked lines, that the children may know what is meant by the terms used.

By actually drawing and naming the parts of a letter its form and name as a whole may be easily impressed on the memory of the pupil. In this manner the learning of the alphabet, instead of being a spiritless task, as it has too often proved, is exceedingly attractive to the child and becomes a valuable aid in cultivating the sense of sight.

This method may be used with a fair degree of success in ungraded schools.

The Alphabet, or A B C Method.

The children by this method, are taught the names of the letters, and they begin to spell words at first. This attempts learning to read by learning to spell. Spelling may be learned through reading, but reading through spelling NEVER. The attempt to combine two things in one lesson, by diverting the learner's attention, interferes with his progress in recognizing the words.

This method was universally used years ago, and even now is used in many of the ungraded schools. In the best schools, the alphabetic method is superseded by some of the modern ways. It is an imperfect method in that the letters do not guide to the pronunciation of the word.

Take the word *mat;* by the same method, the name of the first letter is *em;* the second letter is *e,* and the third *tee;*—pronounced em ā tee; by the phonic it becomes măt.

This method produces halting, stumbling readers, it lays the foundation for mechanical, unintelligible reading, and it is now abandoned by all good teachers.

II. PRIMARY READING.

Give special attention to the primary classes in reading; if a child is not taught to read well during his first two years in school, he will probably be a poor reader through life.

Directions.

1. Train the pupils to pronounce the words readily at sight.

(*a*) Print or write the words on the board in columns; pupils to pronounce them at sight.

(*b*) Write difficult words on the board, and syllabicate them; mark the accented syllables; pupils to pronounce them.

(*c*) Require the pupils to pronounce the words forward; reverse.

(*d*) Require the pupils to bring in a portion or all of the reading lesson upon the slate; pupils read the lesson from the slate.

(*e*) Alternate.

Cautions.

1. Present to the pupils only one difficulty at a time.
2. Never permit the pupils to spell words in reading.
3. Insist upon correct articulation and pronunciation.

If the pupils in the first lessons of reading are taught correctly, they will not spell words audibly. Remarks.

Many of the common faults in reading may be traced to the improper methods in use during the first lessons in this subject. Bad habits at this period usually cling to the pupils during all their school days, and often seriously affect their entire future progress.

The first lessons in reading are of the greatest importance, and they should be given in a proper manner.

To do this successfully there must be a system in the plans pursued.

The pupils must be familiar with the words of the lesson, so that they can readily pronounce them at sight. Reading words.

The teacher should introduce a short preliminary exercise, for calling the words at sight, as follows:

Teacher and children alternating one word each; boys and girls alternating one word each; careless pupils alternating with class; each pupil reading a line as rapidly as possible.

In no instance should the teacher let a pupil stop to spell a word. The plan is in violation of the fundamental laws of teaching. It attempts to compel the child to do two things at the same time, and to do both in an unnatural manner, viz.: to learn reading and spelling simultaneously, and reading through spelling.

Reading has to deal with sounds and signs of thoughts. Spelling rests on a habit of the eye, which is best acquired by writing.

In attempting to teach reading through spelling the effort distracts the attention from the thought; reading furnishes facilities for teaching spelling; but spelling does not furnish a suitable means for teaching reading. If spelling is permitted, a love of reading is not enkindled; good readers are not produced.

The teacher should be familiar with the sounds of the letters, and require the pupils to practise on them two or three minutes daily. Let it be a lively exercise, and insist upon clear, distinct articulation. Attend to one difficult point at a time; see that the pupils understand it and are able to reproduce whatever you teach them.

Phonics.

Further Directions.

1. Train the pupils to read in natural tones.
   (*a*) Request the pupil to look off the book and tell what he reads.
   (*b*) Select a good reader; request pupils to imitate.

(*c*) Teacher illustrates how a sentence should be read.

2. The teacher should illustrate and define difficult words.

(*a*) Illustrate by objects, pictures, drawings and diagrams.

3. No definitions should be given of those words whose meaning can be inferred from the context.

4. Every piece should be carefully studied before it is read aloud.

Reading should not be a mere mechanical exercise.

Remarks. The end of reading is not to give vocal utterance to a succession of words, but to give expression to thought and feeling.

Reading is the most important subject taught in school. It is especially important that it be thoroughly taught in primary classes. The "sing-song drawl" and "nasal twang," which so often prevail in the schoolroom, should be avoided.

Almost all children can be taught to read well; they imitate, unconsciously and naturally, the voices of their playmates.

Many of the teachers are too ambitious in one direction: that is, to promote pupils to higher books than they are qualified to comprehend.

Too difficult selections.

This is a great mistake. Perhaps three-fifths of the pupils of our country are reading in books which they do not understand, or in which they take no interest. This is one of the principal causes of mechanical reading; through this error in judgment the pupils have acquired a drawling way, a lifeless, mechanical style.

Reformation needed.

I am glad to admit that a reformation has begun in this department of instruction, but it will need the constant and varied efforts of teachers and parents for years in order to overcome the effects that have already resulted from past negligence.

Suggestions.

Let the teacher select (from some book or magazine) a story which he will be sure shall interest the pupils.

Let him give the book containing it to a pupil, asking him to read the story over a few times, to become familiar with it; and at or near the close of school, let the pupil read it aloud to his schoolmates.

As he reads, do not discourage him by frequent interruptions, but occasionally, when he relapses into a drawl, repeat the passage, kindly, in a better way, and ask him to notice and imitate your manner.

When he has finished, read to them yourself some other good story, and let your style be worthy of imitation.

Reading sentences.

Let the standing of good reading be its resemblance to good conversation. The pupils may be led to attend to the thoughts expressed, by requiring them to find out what the sentences tell without reading them aloud. The teacher may aid them by proceeding in a manner similar to the following: Request the class to study the first sentence, and each member to raise a hand when able to tell what the sentence is about. Call upon different pupils to state, in their own language, what the sentence tells; in this way they will readily learn to read with easy conversational tones.

Special care should be taken in this step to train pupils in habits of clearness and distinctness of enunciation; also to read in an easy, speaking voice. Overcome the faults in reading by taking up one kind at a time, and continue the practice until the pupils clearly perceive the fault and take proper means to correct it.

Distinct enunciation.

As a requisite essential to success, the teacher of reading should be a good reader. With proper management it is a very easy matter to make children read well, and even the teacher who is a tolerable reader may teach pupils to read. That children have learned to read under such teachers I am willing to admit, because the fact is evident; but that they have been taught by their masters I do not admit, for it is impossible for any person to teach well what he does not understand.

The teacher should be a good reader.

If a child has sometimes learned to read under an incompetent instructor, it has been, not because of the teacher, but in spite of him; and the question is, not how much he has learned, but how much would he have learned had the teacher been qualified to teach him.

The young pupil's knowledge of the meaning of words is limited. One object of reading is to increase the knowledge of words. No definition should be given of those words whose meaning can be inferred from the context, (see page 24). Recourse should be had to a dictionary only when the pupil cannot think out the meaning for himself.

Difficult words.

The child learns the meaning of words by hearing them used—seldom by formal definition.

The teacher may impress the idea by resorting to objects, this is the natural way. Sometimes pictures may be at hand to throw light upon the word; again, a drawing may be given at the board to illustrate the meaning of the word.

Defining words.

In no case should a definition be committed to memory and mechanically recited. The meaning should be inferred from the context, and the pupil requested to use the word correctly in a short sentence.

Let the pupil tell what the word means in his own language.

A definition is a general truth, a deduction; children should be taught primary truths, and, as their reason develops, deduce the definitions, rules and principles. Develop correct ideas, then give definitions. We must not encourage teachers to require pupils to commit the definitions to memory in the primary reading books. But we should insist that the pupils understand the meaning of the words used.

"Mind the pauses."

Teachers sometimes instruct pupils to stop and count "one" at a comma, "one, two," at a semicolon, etc. This leads to a mechanical, unnatural style of reading. First attend to the reading of sentences, and lead the pupils to see how the pauses aid in understanding the meaning. Do not teach reading as if attention to "pauses" were the chief object to be attained.

Reciting definitions of pauses is useless and leads to waste of time. Teach the use of the pauses, instead of the definition of them. A few teachers pay no attention

to the explanation of the words, but turn their attention almost entirely to the names and the pronunciation; important points, to be sure, but by no means the life-giving elements of good reading.

Tone qualities.

Pure.—This is a clear, full and cheerful tone. It is the language of common conversation.

Rotund.—This is the pure tone, rounded, deepened and intensified. It is the language of sublimity, grandeur, awe, reverence.

Aspirate.—This is whispered utterance. It is the language of hate, fear, secresy.

Guttural.—This is the sepulchral tone and has its resonance in the throat. It is the language of hate, rage, contempt.

Pectoral.—This is low, pure tone. It is the language of deep feeling, sorrow.

Falsetto.—This is a very high tone. It is the language of irritability, etc.

Emphasis.

A particular stress of voice given to certain words, or parts of a discourse, or a distinctive utterance of words specially significant, is called emphasis.

A new idea or fact, one now presented for the *first* time, constitutes the emphatic word or words.

That which presents no new or dominant fact or thought is unemphatic, as clauses of repetition, anticipation, sequence, subordination, knowledge beforehand.

Rules in reading.

Do not require children to commit the rules to memory in reading. They are hindrances instead of helps. If the teachers know how to read, those aids in which many school-books abound are worse than useless, because positively injurious.

The competent teacher needs but two rules by which to be guided in teaching the pupils to read :

First.—Make the pupils understand what is to be read.

Second.—Require them to read naturally.

To expect a child to read what it does not understand is unreasonable, and yet nothing is more common. It is idle to put marks, rules and directions, whether by words or characters, into books intended to be read by children, for the reason that they are seldom or never used.

The teacher's preparation.

The teacher should carefully study the reading lesson; should be familiar with the pronunciation of every word, including its literal and its received meaning. He should give the pupils the history of the author and some of his prominent characteristics,—this will add to the interest. He should awaken thought in the minds of the pupils,—this will secure interest. It matters not how simple the lesson may be, previous preparation is indispensable. Previous study will add new power and generate better methods, by means of which success will be insured. The teacher will become independent, self-reliant, and a "law unto himself."

III. INTERMEDIATE READING.

Directions.

1. Teach and train the pupils to understand:
   (*a*) The prominent objects mentioned;
   (*b*) The prominent facts mentioned concerning the object;

(*c*) What they read, so as to be able to tell the story, or the principal facts in the lesson;

(*d*) The connected thought, so as to express it orally and written.

Caution.

1. Attend to one subject of criticism at a time, and require pupils to correct errors.
2. Practise on one sentence at a time.
3. See that all the pupils understand the thought, and are able to express it.
4. Examine the subject carefully before reading.

Results.

The pupils in the Intermediate Classes in Reading should be able:—

1. To pronounce the words accurately.
2. To define the words.
3. To understand the subject-matter.
4. To explain the language.
5. To account for marks of punctuation.
6. To point out what is true, beautiful and good in the sentiment.
7. To show the manner of delivery, and give reason for it.

Remarks.

The number of those who can be properly called good readers in our schools, is small; but how large is the number who can read quite indifferently, or very poorly.

As a general thing it must be admitted that reading has not been well taught in our schools. It has received formal attention and frequent inattention. Time enough is given to the exercise, but not enough attention.

An intellectual exercise.

The elocutionary part of reading should receive but little attention in the intermediate classes. With so many pupils under your training, it cannot be expected that you will go into all the minutia of elocutionary drill. Your aim must be to teach well what you undertake to teach. You cannot even hope to make all your pupils accomplished elocutionists, but you can make them good and intelligent readers. When you find a pupil that takes to elocution it may be well to encourage it, but not to the neglect nor the expense of other subjects of instruction. It may be asked, what is good reading? I call that good reading when a person reads distinctly, giving the sense with such intonation and emphasis as to be pleasant to the hearer, and in such a manner as to be easily heard and readily understood.

An illustration.

Take, for example, the following beautiful selection, and see how many pertinent questions may be asked in reference to it:

Nelly.

Nelly sat under the apple tree,
  And watched the shadows of leaves at play,
And heard the hum of the honey bee,
  Gathering sweets through the sunny day.

Nelly's brown hands in her lap were laid;
  Her head inclined with a gentle grace;
A wandering squirrel was not afraid
  To stop and peer in her quiet face.

Nelly was full of a pure delight,
  Born of the beauty of earth and sky,
Of the wavering boughs, and the sunshine bright,
  And the snowy clouds that went sailing by.

Nelly forgot that her dress was old,
  Her hands were rough and her feet were bare ;
For round her the sunlight poured its gold,
  And her cheeks were kissed by the summer air.

And the distant hills in their glory lay,
  And soft to her ear came the robin's call:
'Twas sweet to live on that summer day,
  For the smile of God was over all.

And Nelly was learning the lesson sweet
  That when the spirit is full of care,
And we long our father and God to meet,
  We may go to nature, and find him there.

1. Where did Nelly sit?
2. What two things did she do?
3. What is meant by the leaves at play?
4. What were the bees doing?
5. What is said of Nelly's hands?
6. What is said of her head?
7. What is said of the squirrel?
8. Of what was Nelly full?
9. What is meant by being full of pure delight?
10. Of what four things was it born?
11. What is meant by being born of these things?
12. What did Nelly forget?
13. Why did she forget these things?
14. What is meant by the sunlight pouring its gold?
15. What is meant by kissed by the summer air?
16. What is said of the distant hills?
17. What is meant by the phrase "in their glory lay"?
18. What is said of the robin?
19. Why was it sweet to live on that summer day?
20. What lesson was Nelly learning?
21. What is the meaning of gathering? Inclined? Peer? Boughs? Nature?
22. Make sentences in which those words in some of their forms shall be used correctly.
23. Write a short composition about Nelly.

Directions.

The piece is descriptive and should be so read as to give the hearer a clear idea of the scenes described. State each thing mentioned as though you were telling some person what you had seen.

The frequent or occasional study of reading lessons in this manner will be attended with two advantages. The pupils will read them better, for they will have a sympathy for the author, and a more intelligent perception of the meaning.

The answering of the question will prove very serviceable, by unfolding the sense of the piece, and thus enabling one to read it more understandingly. It will produce *thought*, and whenever we produce thought we secure *interest*.

In intermediate classes constant attention should be given to punctuation, accent, inflection, emphasis and correct pronunciation.

Explanations of historical, biographical or scientific allusions, should be given by the teacher and reviewed in subsequent recitation. Higher classes may be taught the rhetorical divisions. Thus:

A. Composition.
- 1. Prose,
  - *a.* Letters.
  - *b.* Dialogues.
  - *c.* History.
  - *d.* Essays.
  - *e.* Orations, etc.
- and
- 2. Poetry.
  - *a.* Pastoral.
  - *b.* Lyric.
  - *c.* Epic.
  - *d.* Dramatic.
  - *e.* Elegy.

B. Subject Matter.
- 1. Humorous.
- 2. Pathetic.
- 3. Sublime.

C. Discourse.
1. Narrative.
2. Descriptive.
3. Didactic.

No subject is of more importance than how to teach Reading understandingly. Good reading is calculated to develop the mind, the body, and the imagination. Although so important, yet it is sadly neglected. General remarks.

Elocution is the art of speaking so as to be heard, so as to be felt, so as to impress. The first essential is to speak or read so as to be heard distinctly. Never speak above or below your natural voice; if you do so, the effect will be lost. The three great rules that all should observe in reading or speaking are: "Be sure you have something to say; as well as you can say it; and stop when you are done." Speak so that the listener may understand you; speak so as to be felt, hence be in earnest; if you do not feel what you say, you cannot expect your hearers to feel it.

If you have a fault, attend to it, overcome it by practice. Much time must be taken in correcting bad habits of reading, but you must take the time. And whatever you do, be sure to teach the pupils to do it in the right way. If the teacher wishes to succeed he must learn how intonation and articulation are to be taught. Before he can teach it he must learn it. It can only be acquired through study. Attend to faults.

Rules in books might as well be omitted; correct reading must be taught by example. The object of teaching reading is to make good readers. Before good reading and good speaking can be taught it is necessary

to learn how to articulate distinctly and pronounce correctly. If you are careless in one single point, your pupils will be careless not only on that point but on others.

In reading you must give each sound its true value. The requirements in reading are two-fold:

First.—To express rightly what you read; and

Second.—To do this pleasantly and naturally.

A perfect understanding of what you read is the foundation; you must understand the thoughts of the author and make the thoughts your own.

It is the exception to find good readers in our schools; the reason is because pupils are not required to study the lesson as in other branches.

Study gives force, meaning, beauty and power to the passage. After the pupils can speak distinctly, they should be taught to express the sense, to give the *exact meaning*. In no other way can this be taught than through study on the part of the pupils. They must *read* and *think*.

Posture.

Pupils should be taught how to stand, and they should not be allowed to utter a word until they assume a position to give full force to their utterance; they should not be allowed to appear awkward.

Do not allow your pupils to mumble words, smother sounds and destroy the sense of a passage.

The position should be perfectly easy, natural and graceful; the posture should indicate the sentence to be spoken. Insist that your pupils always take an easy, graceful position in reading or speaking.

Breath.

It is important to know how to breathe properly. It is well to exercise the lungs before beginning to read. The power of the reader or speaker consists in having perfect control of his breathing, so as to utter his words in the proper and most effective manner. It is only when you have perfect control of the breathing that you can give full expression to words and sentences.

Caution.

Let me caution you against placing dependence upon rules of inflection of the voice given in reading books. All that you need is fully to understand the thought; when you have the thought fully, you will know all about inflection of the voice. If a person cannot translate what he reads into his own language, he most assuredly does not understand it. If you cannot bring out in your own language the full meaning of the lesson, you are not the one to teach, and you should either adopt some other work, or go through a rigid course of training.

A great deal of teaching in reading is a positive injury to schools, and all because the teacher does not know how to teach. "Practice makes perfect;" rapidity and correctness are attained only through frequent repetition. No one ever arrives at distinction by sitting with arms folded; you must be willing to think, to exercise, to labor. It is not an easy thing to become a good reader, it is acquired only through practice—continual practice. There is no other way than through practice.

The following rules are taken from "Kidd's Elocution." They should be carefully studied and practised:

First.—Understand well what is read.

Second.—See to it that pupils never read without fulfilling the conditions of proper position and posture.

Make them take the position God intended them to take; train, not teach; there is a difference between the two.

Third. Insist upon frequent and natural breathing. Good breathing is essential to health.

Fourth.—Reach the heart of the pupil. This is done by interesting them, by making them understand what they read.

Fifth.—Cultivate a perfectly easy, distinct and natural voice, avoid all labored efforts; let the voice come out full. Let pronunciation be correct, inflection natural; give the best models, but never rules. Make pupils repeat the pronunciation of words they are in the habit of mis-pronouncing. Modulation and intonation should be varied but always natural.

Sixth.—Have your pupils speak with naturalness. If the subject be understood any one will speak naturally. Train them to speak by the highest standard they possess.

Seventh.—Be in earnest. If the pupil has not an earnest manner, it proves that he does not understand his subject.

Necessary conditions.

Teacher, whatever else you may teach, do not consider the reading exercise an unimportant one. Teach and train the pupils to be readers. It is the *art of arts,* and in it are the germs of growth and development.

We read in the Bible at the eighth chapter of Nehemiah, eighth verse, how they used to read in the olden times:

"So they read in the book in the law of God distinctly, and gave the sense, and caused them to understand the reading."

There are three kinds of reading that are often confounded; mechanical reading, intelligent reading, and intellectual reading.

Mechanical reading, *per se,* is no reading at all; it is but a form of voice training. It may include pronun-

ciation, articulation, enunciation, inflection, tone pause, harmony, rhythm, and emphasis. A child may learn every one of these, in a foreign language,—learn them to perfection, if he be well drilled in them by means of directions and imitation, and yet not understand one word of what he reads while he gives them.

An intelligent reader is one who understands what he reads, who takes in the authors thought. There are various degrees of intelligent reading. One person takes in the meaning vaguely, another more clearly, another quite clearly and definitely. It is not possible for a young child to be more than an intelligent reader, but the power should come to him as he grows older. Yet how many adults there are that do never get beyond the child's power of reading. Take, for instance, the well-informed man who never will be wise; he is eminently an intelligent reader, but there is no hope for him that he will ever become an intellectual reader.

Intellectual reading is not only a taking in, clearly and definitely, of the author's meaning, but it is also a ready recognition of the relation of that meaning, a prompt assimilation of it, and a consequent growth. This is the kind of reading that reigns in the student's den and the philosopher's study. That man who has the original power, or the acquired habit,—which is often more than an equivalent for the original power,—to grasp readily and clearly the meaning of what he reads, is always one whom all others envy. And yet this power, valuable beyond calculation, may be given to every child in our schools, if we can but find the right way to secure it for him.

The question then is: How shall we train our children so that they shall become not only intelligent but intellectual readers?—so that they shall become not only intellectual silent readers, but also accomplished oral readers?

Reading a thought process.

By assigning to the lesson in voice-training all those exercises which pertain to voice-culture and discipline of the organs, with drill in pronunciation and a consideration of emphasis and pauses, illustrated by mistakes taken from yesterday's lesson and difficulties in to-day's, we shall relieve the reading lesson proper of the necessity of taking note of all that machinery which produces effect, and leave the teacher and class time and opportunity to study the thought the passage contains, and to give it a free and natural expression. Let it be understood by the class as well as the teacher, that the reading lesson should be a clear, clean-cut process of thought carried on to expression, and should not be interrupted by continued, trival and harrassing corrections. What is more painful than to see a child rise in his class, full of the thought the passage contains, confident of his power to give it good expression, his eye a-kindle and his cheeks aglow, and then to see him suddenly brought to a blank standstill by a dozen upraised hands and snapping fingers, because, forsooth, he has omitted an "a," a "the," or mis-called some simple word he knew quite well, or skipped some useless comma?

Where such practices are allowed, the reading lesson becomes a mere game in pronunciation, and a correct handling of the voice according to rules. Such games are good to make the children keen-sighted, quick-

thoughted, and correct; but their place is not in the reading-lesson, and if we keep them there we shall go on forever teaching only words, words, words.

Let us have first the thought, then the expression, and last and least, mechanical defects. Better that the thought should be full-born, and clothed in garments with here and there a rent, than that it should be still-born and the garments without a flaw.

As in language the thought is the root of which the word is the blossom, so in reading, an understanding of the author's meaning is the root of which oral reading is the blossom. If, then, we find our blossoms defective, it behooves us to look to the condition of the roots.

But what method will help us here? How can we make sure that a child understands what he reads? Children imitate so easily, and habit counterfeits nature so closely, how can we be sure that we are not misled? Only by studying the lesson with children; only by having before every reading-lesson a language-lesson upon the subject-matter of the reading; only by compelling the children, by means of questions, to *think*, to *reason*, and to *express:* to express the thoughts of the lesson, first in their own words, and then in the words of the book; and, whenever the subject-matter may be, from any cause whatsoever, vague to the children's minds, by illustrating it with objects, with pictures,—printed pictures, and outline pictures drawn upon the black-board, and with what the English training-schools call "picturing out words."

PHONICS.

Till recently this important subject had received but little attention in the public schools of the country. Why it was so long neglected, when it is such an important element of expression, is a curious problem.

The object of teaching this subject should be:—

First.—To train the organs of hearing so that the children may readily distinguish the sounds heard in speaking and reading.

Second.—To train the organs of hearing so that the pupils may learn to produce the sounds correctly in using language.

To acquire an articulation which shall be at once accurate and tasteful, it is necessary:

1. To obtain an exact knowledge of the elementary sounds of the language.

2. To learn the appropriate place of these sounds.

3. To apply this knowledge constantly in conversing, reading and speaking, with a view to correct every deviation from propriety.

A good articulation is not to be acquired in a day, nor from a few lessons. Practice should begin with the primer, and continue through the whole course of education; and even then there will remain room for improvement.

Great care should be taken in giving these lessons, that the class repeat each exercise until all the pupils can make every sound and combination that it contains, readily and perfectly.

The teacher should make the sound, and then require the pupils to imitate them. The pupils should stand or sit erect, and use the natural tones of the voice. Only one or two sounds should be taken for a lesson.

The exercise should not continue more than five minutes; it may be introduced in the reading or spelling exercise, or the whole school may join in it.

Tell the children "to open the mouth and move the lips," to speak distinctly and to enunciate every sound perfectly. Time should not be wasted in the endeavor to teach children definitions or descriptions of the various sounds of the letters. The chief aim should be to train the organs of hearing to acuteness, and the organs of speech to flexibility and accuracy.

Notation marks or diacritical signs.

The pupils should be taught the correct sounds and the signification of the different marks. All the vowels and many of the consonants have marks to distinguish their sounds.

After a sound is learned the teacher should write the letter on the board with its proper mark. The pupils should be required to copy and reproduce every exercise. Let the drill be thorough.

Tell the pupils that when a short horizontal line—called the *macron*—is placed above the vowels it indicates the long sound, as ā; that a short curved line with the curve downward—called a *breve*—placed above the vowels indicates the short sound, as ă; that two dots placed above the vowels indicates the Italian sound, as ä, etc.

We find few teachers who are able to give the sounds of the English language correctly, and many are unable to tell the kind of a mark or sign that indicate a certain sound.

This subject requires study and practice. We need not expect distinct speaking so long as we neglect the following suggestions:

Suggestions.

1. Train the organs of hearing to distinguish readily and accurately the different sounds of language.

2. Train the organs of speech to produce these sounds with ease and accuracy.

3. Train the pupils to the correction of faults of enunciation and pronunciation in reading and speaking.

4. Train pupils in every lesson upon the elements.

5. Master the analysis before you attempt to teach it.

6. Let the drill be accurate.

For full directions in teaching this important subject, the author refers to his book called "PRACTICAL PHONICS: A comprehensive study of Pronunciation, forming a complete guide to the study of the Elementary Sounds of the English Language, and containing 3000 words of difficult pronunciation, with diacritical marks according to Webster's Dictionary." Price 75 cts.

SPELLING.

INTRODUCTION.

It cannot be denied that the orthography of the English language is difficult. In a general way there are no principles governing it; but few rules can be called to mind, and these have so many exceptions that they are of little use.

There are only three rules that I have found of practical value:

1. Monosyllables and words accented on the last syllable, ending in a single consonant, preceded by a single vowel, double the final consonant before an addition beginning with a vowel.

2. The diphthong *ie* is generally used after other consonants than *c*, which is followed by *ei*.

3. Words ending in final *y*, preceded by a vowel, form their plurals by adding *s*.

It will be seen at once that English spelling must be learned to a great extent arbitrarily; but industry and attention will enable any student to master it.

Everybody knows how imperfectly the teaching of spelling accomplishes its purpose; yet there is no reason why any student should habitually spell words badly. Any person may learn to spell,

Results unsatisfactory.

if in writing, whenever he shall come to a word which he does not certainly know how to spell, he will look for it in his dictionary and study its spelling and meaning.

Mechanical spelling.

Too often the spelling is a mere "parrot exercise," in that its results are rapidly lost as soon as the attention is given to something else. Inattention is a fruitful source of ill spelling. Time is wasted upon oral spelling, and bad habits are formed by spelling new words pupils do not understand.

In connection with reading.

I should connect spelling and reading with writing from the very outset. As soon as the child can pronounce the alphabet on this plan he will be able to write it, and then as he advances he must continue to write all the spelling lessons and as much of the reading lessons as time will admit. It is a rare thing to find children seven years old able to read a word of manuscript,—much less to write well. A little instruction given by the teacher each day upon this special study will aid in making the children good penmen. It is a very valuable help.

During a certain year I pronounced the following words to twenty-one Institutes in the State of New York, viz.:

accordion,	melodeon,	alpaca,
beefsteak,	billiards,	caterpillar,
diphtheria,	harelip,	surcingle,
occurrence,	inflammatory,	succotash,
tranquillity,	exaggerate,	vaccinate,
centennial,	brilliancy,	collision,
dissipate,	tyrannical,	valleys,
lilies,	numskull,	primer,
	erysipelas.	

The average spelling of the teachers, including public school, union school, academy and normal school teachers, was 63 per cent. One county stood at 85 per cent, and one at 20 per cent. Only three teachers from the twenty-one counties spelled all the words correctly.

The following list has been given at institutes, with similar results:

judgment,	infringement,	abridgment,
acknowledgement,	tranquillity,	dissyllable,
bilious,	lilies,	eying,
vying,	halos,	inseparable,
privilege,	licentiate,	conscientious,
intercede,	supersede,	sacrilegious,
inflammation,	quizzical,	contrariwise,
mucilage,	millenium,	metallic.

Oral Spelling.

Value of oral spelling.

Spelling is the right formation of words with their proper letters. Oral spelling does not give the ability to write words correctly; but it must not from this fact be deemed a useless exercise. Long used as a basis of learning to read, and still clung to by many, there must be something in it. It makes words that otherwise would have been altogether strange, familiar to the ear and sufficiently distinguishable by the eye to enable the learner to recognize them again when met with in his reading lessons. It finds favor with parents as furnishing some school work at home. And it finds favor with the teachers, as giving the only means with the younger children, or with poor scholars, of forming those habits of attention, application, perseverance and retention which are the characteristic features of a system of tasks.

Directions.

1. Require the pupil to pronounce:—
   (*a*) The word accurately before spelling;
   (*b*) The letters accurately;
   (*c*) The syllables accurately;
   (*d*) The words accurately after spelling;
   (*e*) The words of the succeeding lesson accurately before study.
2. Require the pupil to name everything necessary to the correct writing or printing of the word, as the capital letter, hyphen, apostrophe, etc.
3. Require the pupils to copy the words of the succeeding lesson several times before spelling.
4. Let every fifth exercise be a review.
5. Require misspelled words to be written correctly.
6. Review often and advance slowly.

Cautions.

The teacher should:—
   (*a*) Pronounce the word only once.
   (*b*) Never repeat a syllable.
   (*c*) Not permit the pupil to repeat a syllable.
   (*d*) Require pupils to divide one syllable from another by a pause.
   (*e*) Give no undue emphasis to unaccented syllables.
   (*f*) Forbid the pupil to try the second time on a word.
   (*g*) Explain new words.

Results.

1. The correct spelling of words.
2. The correct pronunciation of words.

In teaching Spelling, the instructor should aim to give interest to the exercise by frequently varying the mode of recitation. But whatever course is pursued, the following directions should be strictly adhered to: Remarks.

a. The word should be pronounced distinctly; just as it would be pronounced by a good reader or a good speaker. In giving out the words to a class, teachers sometimes commit the error of departing from the ordinary pronunciation, for the sake of indicating the orthography. No *undue emphasis* or *prolongation* of the utterances of a syllable should be given by the teacher.

b. The pupil should spell once only on a word; as all beyond will be merely guessing.

For employment between recitations the children should be permitted and encouraged, and required and compelled, to write all the exercises they read or spell upon their slates.

The best way to study a spelling lesson is to require the pupils to write it several times on their slates. The practice of requiring pupils to study the lesson a given number of times only teaches them to hurry over their study, and not to study to any purpose. Importance of written spelling.

It is not the number of times a lesson has been studied that should be considered the mark of effort, but the ability to spell every word in the lesson.

There is no reason why every child in every school should not be a good penman at a very early age. The advantage of this acquisition to the children cannot be overrated; for, besides the mechanical skill, the child has the means of constant Importance of teaching writing.

employment which will keep him from idleness and mischief, and the *energetic teacher* can make this skill bear upon almost every exercise in other branches of instruction.

Written Spelling.

Directions.

1. Preparation for the lesson.
   (*a*) Pronounce the word accurately.
   (*b*) Use it in the construction of a sentence.
   (*c*) Define it.
   (*d*) Write a sentence containing it.
2. Materials—Book, pen and ink.
3. Require the pupils to write the word neatly, as soon as pronounced.
4. At the close of the written exercise, the teacher, or some pupil, should spell the word orally.
5. The pupil should check the misspelled words.
6. Every misspelled word, and word omitted, should be written correctly in the Appendix, with its number and the number of the column.
7. All blanks, letters or words erased, inserted, written over, or written indistintly, should be considered as errors.
8. The teacher should examine the pupil's work, and keep a record of the scholarship.
9. Begin all words with small letters, except proper names.

Cautions.

1. The teacher should give sufficient time to the exercise.

2. The direction number eight must be adhered to strictly; any violation will be counted the same as a misspelled word.

3. If words are found unchecked, they should be marked with a cipher.

4. Every word which the student checks for himself will deduct one; every one checked with a cipher will deduct five; any correction whatever made in the column will deduct ten.

Remarks.

"The old adage, 'Eyes are better than ears,' nowhere holds good with greater force than in learning to spell." Familiarity with words as written, such as will give the knowledge of all the letters and their proper position, is necessary to the power of writing them correctly. Such familiarity is obtained only from frequently seeing and writing them. The only way to produce words accurately is to make them familiar to the eye; hence the well-known fact that persons who read much, as compositors, or write much, as copyists, invariably spell correctly; hence also the common practice, when people are in doubt between two forms of words, to write them both, when the eye instantly decides on the right way.

Discovery of mistakes.

The detection of every mistake with least loss of time is of the first importance. Careful examination of each slate by the teacher is most likely to secure this, but it is open to the fatal objection that it occupies much time and leaves the class idle. In some schools monitors are appointed to examine the slates and to correct the mistakes. This, apart from the difficulty of getting properly qualified monitors, is objectionable, as yielding the monitors no adequate re-

turn for their long and irksome task, to which must be added the possibility of unfaithfulness. The plan of allowing the children to inspect each other's slates is open to serious objections, not the least of which is the distrust it seems to imply. Sometimes the children compare their slates with the lesson in the book, or written on the black-board; a plan which has the advantages of throwing the labor on the child, and of having the corrections made at the same time: all that is needed being a vigilant oversight, to see that it is faithfully done. But the method which to our mind is the best, is to dictate but one or two sentences, and then to have each sentence spelled through, either by the teacher or by the scholars in turn, every mistake being underlined.

Corrections.

The correction of mistakes should appeal to the eye, not to the ear. Pains should be taken to ascertain the cause of any common defect. For this purpose the word should be written on the black-board, and alongside of it the correct form; the two should be compared and the cause of the mistake discovered. Often this will be a lesson on the structure of a class of words, and probably prevent similar mistakes afterwards. After this has been done, the whole class should write the word in its correct form, and then the words should be dictated afresh; if any now have mistakes, they should be required to write the words three or six times, according to the degree of carelessness shown. Sometimes it may be well to direct the children themselves to write correctly the words they have underlined, this making them attentive while the words are being spelled. But, as a general thing, this is open to the objection that it appeals to the eye, and

that it does not occupy the children who have spelled it correctly.

METHODS IN SPELLING.

I. Constructive Method.

The teacher should request the pupils:—

(*a*) To name a few familiar words.
(*b*) To construct with block or card letters.
(*c*) To spell the words by the sound of the letters.
(*d*) To copy the words on their slates.
(*e*) To tell the silent letters.
(*f*) To spell the words by the name of the letters.
(*g*) To use each word correctly in a sentence.

II. Objective Method.

The teacher should request the pupils:—

(*a*) To bring to school a number of objects of the same kind.
(*b*) To examine them carefully.
(*c*) To name the parts.
(*d*) To spell and write words.
(*e*) To tell the uses of the parts.
(*f*) To introduce the word into a sentence.
(*g*) To name the properties of the parts.
(*h*) To write a short composition, reproducing the words.

III. Definitive Method.

1. Assign an object to every pupil.
2. Pupils find the meaning.
3. Pupils name the parts, qualities, uses, etc.
4. Pupils write a short composition, reproducing the words.

IV. Composition Method.

1. The teacher writes a certain number of words on the board, requiring the pupils to copy.
2. The pupils learn to define them.
3. The pupils use them in composition of a sentence.

V. Geographical Method.

Require the pupils to spell the names of:—

(*a*) Countries.
(*b*) States.
(*c*) Counties.
(*d*) Cities.
(*e*) Towns.
(*f*) Divisions of Land.
(*g*) Divisions of Water.
(*h*) Occupations.

VI. Natural History Method.

Require the pupils to spell the names of

(*a*) Animals, Minerals, etc.
(*b*) Trees.
(*c*) Fruits.
(*d*) Flowers.
(*e*) Vegetables.

VII. Dictation Method.

1. The teacher has Dictation Exercises once a week.
2. He dictates stories, descriptions, etc., to the pupils who produce them exactly.

Suggestions for the Above Exercise.

1. Write your full name on the paper.
2. Number the sentences.
3. Construct every letter accurately.

4. Do not erase letters or words.
5. Do not insert letters or words.
6. Do not write over letters or words.
7. Do not prompt, or be prompted.
8. Use capital letters correctly.
9. Use punctuation marks correctly.
10. Cross the "t's" and dot the "i's."
11. The teacher or pupil writes the correct forms on the board.
12. Those who make mistakes in spelling, or in any of the directions, are required to correct them.
13. The teacher examines the papers; and
14. Finds the per cent.

Remarks.

However thorough the drill in spelling may be from the lessons of the speller or reader, every teacher should have frequent and copious exercises in spelling words from other sources. These should be words in common use, chosen as far as possible from the range of the pupil's observation, including the new words that arise in object lessons, in geography, arithmetic and grammar. The more difficult of these words should be written in columns on the board, and studied and reviewed with the same care as lessons from the speller and reader. Failures in spelling these words should be marked as errors, the same as failures in any other lessons.

Suggestive Methods in Spelling.

1. Read a short sentence distinctly, and require every word to be spelled by the class,—the first pupil pronouncing and spelling the first word, the next pupil the second, and so on until all the words in the sentence

have been spelled. (An excellent exercise; it demands attention.)

2. It will be well in oral spelling to make all the members of the class responsible for the accurate spelling of each and every word.

If the first member of the class misspells the word given to him, let the teacher proceed and give out the next word, without intimating whether the first word was correctly or incorrectly spelled.

If the second pupil thinks the first word was not spelled correctly, he will spell it instead of the one given him, and so on through the class, each being expected to correct any error that may have been committed. If the first pupil spells a word incorrectly, and no one corrects it, let all be charged with a failure. This mode will amply compensate for its frequent adoption.

Put your hard work on the difficult words.

Two-thirds of the words in the English language need but little study. The remainder can be mastered only by study. The pupils should be urged to study the difficult words.

3. Another mode of conducting the exercise of spelling is the following, and we may add that for more advanced schools it possesses some advantages.

Let the teacher write legibly on the board twenty or more difficult words, and allow them to remain long enough to be carefully studied by the school. A few minutes before the exercise let all the words be erased from the board. Let each pupil provide himself with a slip of paper, following the order as directed in the previous exercises. The teacher will pronounce the words and the pupils will write them.

After the words have been written, let the slips be collected and taken by the teacher, who may himself—aided by some of the pupils—examine the slips, and mark the words spelled incorrectly. Subsequently, let the teacher read the result to the whole school, stating the number of errors committed by the several pupils; after which the papers may be returned for correction. If there is a good board in the room, a few pupils should write the lesson on it.

4. An attractive mode, which may answer for oral or written spelling, is the following:

The instructor pronounces a word which is to be spelled by the first in the class, who will name immediately another, commencing with the final letter of the first word which is to be spelled by the next pupil; and he in turn will name another word, and so on through the class. It will awaken thought and interest.

5. Another mode which has its advantages is the following:

Let the teacher dictate some twenty or twenty-five words to the class, requiring the members to write them on their slates. These words are to be carefully examined and studied by the pupils, who are also to be required to incorporate each word in a sentence which shall illustrate its meaning and show that it is understood by them.

After these sentences have been read and erased from the slates, let the words be dictated again, to be written and examined with special reference to the orthography.

The teacher should keep a copy of all words dictated to the pupils and hold them responsible for the correct spelling in review.

Importance of spelling.

Teachers should give close attention to this important subject, for truly it has been said, "To spell one's own language well is no great credit to him, for he ought to do it; but to spell it ill is a disgrace, because it indicates extremely poor attention and loose scholarship."

We have a great number of spelling-books, grammars, and other aids, but with all these, poor spellers greatly abound.

One cause of the frequency of poor spelling may be found in the neglect with which the spelling lesson is treated in schools. It is often crowded into a few minutes and passed over in a very hurried and imperfect manner, and if any exercise must be omitted the spelling lesson is the neglected one. Another cause may be found in a feeling, not very uncommon, that spelling is undeserving the attention of any but very young pupils.

From the beginning let your pupils understand that the spelling lesson will always receive its due share of attention, and its due time. Hold your pupils responsible for the correct spelling of *every word* at the regular recitation and upon reviews.

As soon as the pupils can write, which, in a well-conducted school, is about as soon as they can read, special instruction in spelling with script letters should be introduced, and children should be required to write and to spell orally every word in their reading, and in all other lessons. If accuracy and neatness in every particular be required, habits of careful attention will be formed.

The child must be taught to spell correctly before twelve years old, as this habit is seldom acquired after that age.

A good speller is one who habitually gives the correct form to every word in his written exercises. It is only in printed and written language that correct spelling possesses any value. Oral spelling is not a test of accuracy. It is impossible to memorize by their letters all the words in our language. If we wish to make pupils excellent spellers, we must cultivate the powers of observation and memory. If habits of carelessness and inaccuracy are allowed to be formed in childhood, no ordinary efforts in after life can overcome the defects or supply the deficiencies that result from such habits.

Spelling used only in printing and writing.

General Rules for Spelling.

Rule 1. Write no word unless sure of its orthography and signification.

Rule 2. Consult the dictionary in case of doubt.

Rule 3. Apply the rules for derivatives.

Rules for spelling are of but little use in primary classes, or in fact in any classes. It may be well to memorize them, as they may prove of a little use in spelling of derivatives.

Remarks.

Exercises in Orthoepy.

Note.—The teacher should write these words on the board, and let the pupils pronounce them.

1. sacrifice,
2. memoriter,
3. pedagogy,
6. torrid,
7. often,
8. pretty,

4. equable,
5. truths,
9. finance,
10. mercy.

1. săc′rĭfice,
2. mêmŏr′iter.
3. pĕd′agōgy,
4. ē′quable,
5. trüths.
6. tŏr′rĭd,
7. ŏf′ten,
8. prĭt′tў,
9. fĭ′năncé,
10. mĕr′cy.

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1. finale,
2. apparatus,
3. orotund,
4. jugular,
5. enervate,
6. inquiry,
7. employe,
8. condolence,
9. dessert,
10. pronunciation.

1. fĭnä′le,
2. ăpparā′tus,
3. ō′rōtund,
4. jū′gular,
5. ēnĕr′vate,
6. ĭnquĭ′ry,
7. émployé,
8. condō′lence,
9. dĕssĕrt′,
10. pronuncia′tion.

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1. aye,
2. area,
3. almond,
4. alias,
5. arctic,
6. acclimate,
7. apparent,
8. aspirant,
9. allopathy,
10. albumen.

1. ä′ye,
2. ā′rea,
3. ä′mond,
4. ā′lĭas,
5. arc′tic,
6. ăcclĭ′mate,
7. ăppâr′ent,
8. ăspĭr′ant,
9. ăllŏp′athy,
10. ălbu′men.

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1. Appālā′chian,
2. Am′azon,
3. New Or′leans,
4. New′foŭndland,
5. Shawan′gunk,
6. Colorä′do,
7. Cōlō′es,
8. Virgi′nia,
9. Arkan′sas,
10. Ausa′ble.

"Exactness in articulation cannot exist without close discrimination and careful analysis." The preceding exercises on the correct pronunciation of words should receive attention. It would be well for the teacher to write on the board a list of words pronounced incorrectly by the pupils, and require the pupils to correct them.

Remarks.

The author's "Pocket Pronunciation Book" (price 15 cts.,) gives 3,000 of the words oftenest mispronounced. Hall's "Orthography Made Easy" (price 75 cts.) gives 38 selections of the words oftenest mispronounced, with a key at the end of each giving all the words with diacritical marks. Hoose's "Studies in Articulation" (price 50 cts.) gives a careful study of sounds, with abundant exercises in pronunciation.

Inquiries are made frequently for books for written spelling. Of these the number is legion, but one of the best is "The Bulletin Blank Speller," prepared by Henry B. Buckham, former Principal of the Buffalo State Normal School. Price 15 cts. each, $10.00 per hundred.

PENMANSHIP.

I. GENERAL PRINCIPLES.

Instruction in penmanship may be broadly classed under two heads; one which aims to teach scholars to draw, and the other which seeks to develop the forms of letters through the medium of natural movements.

The first makes use mainly of the movements which may be produced by the fingers, thumb and wrist, while the second recognizes a medium of execution which brings into play the entire arm and shoulder muscles.

These two processes are based upon principles so radically different, that a clear understanding of the nature and tendency of each is quite essential to any intelligent plan of teaching.

It would be comparatively easy to suggest theoretically a method for instructing classes in our public schools, which if carried out according to programme would insure excellent results, but in practice we might find it an entirely different thing; the conditions are usually so restrictive, and the requirements regarding other branches to be taught so numerous that the question really becomes, not so much what ought a teacher to do, as what can he do, under the circumstances?

Penmanship not Acquired by Imitation of Forms.

A fundamental error.

One of the first requirements, especially in our graded schools, is that a child from the moment he enters shall begin to learn to make the script letters, and to form them into words and sentences, as

an essential medium for developing the faculty of language. In doing this if he is able to draw out the forms legibly upon the slate or tablet, the important question of how it is done is rarely considered, and even the more important question as to what future use the child may make of this writing, receives but little attention.

Early formation of bad habits.

It is a fact well known to teachers that in learning to form the letters, young children almost invariably acquire a habit of grasping the pencil in a manner which cramps the fingers, forces the hand over to the right, bends the wrist in toward the body, and places the pen in a position which is so awkward and unnatural as to prevent absolutely anything like fredom in execution; but it is forgotten that this habit of twisting and distorting the position of the hand must in time become as much a part of the act of writing as the form of the letter itself.

The force of habit will be certain to assert its power, and this strained unnatural position must eventually identify itself with the forming process in every letter—the act of writing becomes a torture instead of a pleasure, and a struggle ensues between teacher and pupil, when the slate is exchanged for the copy book, and the attempt is made to correct the habit.

Nor does the difficulty end when by careful teaching and patient effort, the scholar has obtained some control of the pen, and is able to imitate the forms of letters. The carefully drawn page in the copy book will often excite admiration, while the composition or other written exercise presents a style of penmanship which fails to suggest any connection between them, the character of

the handwriting in the two instances being as totally unlike as if written by different persons.

This tendency to write two entirely different hands is not at all uncommon among school children, and demonstrates quite clearly that penmanship acquired by imitation, and with the hand and pen in a false position, lacks the essential quality of practical application.

Under these conditions the teacher is quite apt to become discouraged, and may conclude that such results are invariable; but when properly understood, the real cause of failure may be traced to the natural difference which exists between drawing two words per minute in the writing lesson, and the attempts to draw fifteen or twenty in the same time in the composition, where it becomes evident that the process of correct drawing must be restricted as to speed.

Disadvantages of slate-work.

It is perhaps practically impossibly to do away with slate-work in teaching writing to primary scholars, notwithstanding its liability to promote bad habits in pen-holding, its certain tendency to make a scholar careless in all his work; but it is evident that the transition from the unyielding slate surface and the short pencil where main strength often becomes an active element, to the sharp, pliant pen and soft texture of the paper, is altogether too abrupt. Some kind of preparation is needful, and if an intermediate drill in which long lead pencils might be used on calendered manilla paper, was introduced, it would render the change more gradual and be productive of better results.

So long as instruction in penmanship consists of teaching by imitation the forms of letters with such

occasional directions for position and pen-holding, as a teacher who cannot himself hold a pen correctly may venture to give, the theory of an intimate relation between writing and drawing will be accepted; the faculty of drawing will possibly be somewhat developed, but as regards any practical application commercially or otherwise, the process results in failure, the scholar continues to draw term after term, but unfortunately never learns to write.

This may partly explain why the slate work of the primary grades in many of our schools is so much better than the pen work of scholars in the higher classes; the formation in writing is so simple that the elements are rarely acquired, but in the attempt to use pen and ink, without having been thoroughly drilled in movement, the correct form quickly disappears.

The Secret of Success Lies in the Arm Movement.

Want of confidence, generally arising from a belief that one must needs be a fine penman to teach this branch successfully, prevents many able teachers from attempting anything out of ordinary routine.

A knowledge of the nature and value of movement, the ability to make upon the blackboard a few simple elements of form, a little faith gained from personal experience and a disposition to work, will enable any teacher to obtain as good results in this as in any other branch, and quite frequently much better.

Every teacher may teach penmanship well.

If penmanship as now taught in our public schools is a comparative failure, the fault is largely with the teacher; he does not need to be an expert penman to

teach it acceptably. It is better to know something of the analysis of letters, but the requirements in this respect are not beyond what the majority possess.

He should, of course, understand from the start that he is to teach writing, not drawing, and the scholar should be made to realize that he is to learn to form the letters with the whole arm instead of the fingers.

Whole-arm, as here used, should not be confounded with off-hand or free-arm movement, for although the entire arm is used, the fore-arm rest on the desk is maintained, and the sleeve is kept from sliding.

Not imitation but movement.

Next, and in this connection most important of all, teacher and scholar should each know that the best way to improve his penmanship is to stop writing entirely, so far as imitation of letters is concerned, and to give all attention to the cultivation or development of movement through practice on properly arranged exercises.

It is evident that if a scholar has already acquired a false position of the hand in learning to form letters on the slate or otherwise, this form and position are to a degree inseparable, and continued practice on the letters with pen and ink will serve merely to confirm bad habits, and to prevent the establishment of correct ones.

Exercise should be on ovals.

New forms of exercise must necessarily be associated with the new movements, and that the motive for practice may not be uncertain, the hand and arm under the impulse of an augmented power must be drilled to do something definite, having always for its object the application of the movements acquired to the construction of letters; hence all

exercises of muscular drill should be based upon the standard forms of ovals, separately, and associated with straight lines.

General Directions.

There is so much variety in the shape and size of school desks that definite instruction for the position of the body, and the placing of the right arm so as to secure the best results in all cases cannot be given, but it will generally be found that if a scholar is given a start in arm movement, and is made to understand clearly what is expected of him, he will usually adjust himself to existing conditions and work out both problems in a satisiactory manner.

A natural position the best.

It is the constant, persistent repetition of a single movement which tells in forming an exercise, and this part of a beginner's work cannot well be overdone.

Repetition of a single movement.

Drill a scholar in this manner for a few months and you will have given him a degree of facility with the pen which he can no more forget than the knack of skating or swimming, and in addition you will enable him to lay the only true foundation for future successful practice in penmanship.

In telegraphy the character, or the sound representing it, is not produced by the operator through any mental recognition of the number or arrangement of the dots and dashes employed, but by an unconscious action of the fingers, which through long practice has come to personate that special character. And the business penman, although forming characters with perfect uniformity, gives no thought to the matter of right,

left or double curves; a definite movement has been established for each letter, and the hand trained by practice does the work without mental effort.

That which in practice is true of telegraphy or rapid business writing is equally true in applying acquired movements in learning to write. The letters are so constructed that by learning the strokes which form the principal types—five in number—the letters themselves may be formed without especial effort; and if the stroke fails to produce a correct type, the error will be found to result from an imperfect movement rather than from any lack of knowledge in formation, and want of character in any letter may be directly traced to lack of firmness and precision in the arm action.

Individuality in penmanship.

Very much of this fine theorizing about the necessity for developing the artistic, and cultivating the beautiful in conception of form, as applied to teaching school children to write is mere nonsense, and may easily become a hindrance rather than a help to practical work.

It is a well understood fact that no two persons ever did or ever will write exactly alike; in learning, each one will be certain to develop characteristics peculiar to himself, and there is little use or reason in attempting to force all hands into any specific mould.

Study the arm.

Make a careful study of the right arm; ascertain by practice which muscles and joints come most prominently into use by the act of writing, and then introduce such calisthenic exercises as will discipline these into subjection to the will; now, basing your pen drills upon properly arranged exercises, put scholars in the way of securing this faculty or knack of move-

ment as applied to the different classes of letters, and the mere matter of form, although of equal importance, will require but little special attention.

The Public Schools may make Good Penmen.

Many teachers get the idea that as good work cannot be done in public schools as in those organized for special instruction in commercial branches, but experience shows that the better work in almost every respect can and should be done in the former.

The organization and force of discipline behind a teacher in a well regulated public school is a powerful lever, which rightly applied may be made a means for producing results not easily attainable in any other way. In addition to this, the fact that children may be kept under a systematic course of training for several years, and the habits of correct position, movement and formation so firmly established as to assure continued improvement after leaving school, renders the public school instruction in many respects more valuable than tuition under other conditions.

Force of organization and discipline.

II. PRACTICAL EXERCISES.

Suggestions to Teachers.

The lessons given on the following pages are intended to assist you in acquiring the ARM MOVEMENT in writing, as distinguished from the use of the thumb and finger joints. If you will merely take the time to demonstrate its value in your own case you cannot very well fail in teaching it successfully to others. But this is a case where for a certainty you must learn

Learn to do by doing.

to do by doing, and the measure of your own success will determine the degree of confidence with which you will impart it into others. You need not necessarily wait for its accomplishment before beginning to teach it. As soon as you have learned to place the arm and hand properly, as directed on page 71, and can make the *direct muscular movement* as illustrated on page 73 (but without the pen) put your class under the same drill, and by thus applying the theory in practice you will add materially to the value of your own training.

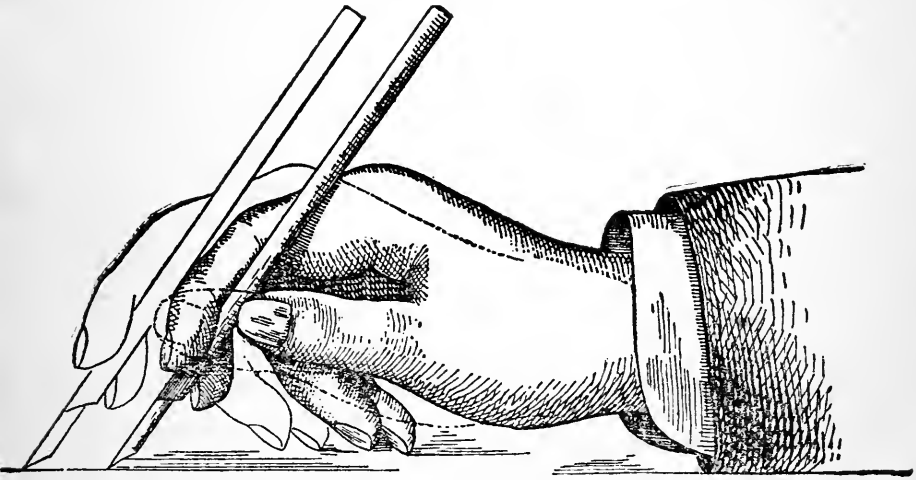
Position of the pupil.

When the work outlined in this lesson has been accomplished, when you can not only make the movement exercises fairly well (this does not refer to a perfect formation, as that is merely a result and not a means) but can also teach others to make them, then you will be prepared to continue the application of the method by the use of properly arranged exercise books. For position you will probably obtain the best results by having the pupil turn the right side to the desk, placing the right fore-arm entirely on it (the elbow joint will not interfere if the arm is perfectly flat), and with left hand brought to the edge to hold the paper or book. The body should not touch the edge of the desk. Do not allow the pupil to lean on the right arm; be careful that a light rest is maintained in all movements.

The four ends to be attained.

In practising to improve your penmanship, legibility and uniformity are the primary, and freedom in movement and rapid execution, the ultimate results to be attained. These, taken together, constitute the essentials of good writing.

The motive for practice should not be uncertain; the hand and arm must be drilled to do something definite, and that having always for its object the application of the movements acquired to the construction of letters. We may say here, that all consideration of this subject will be from the standpoint of future utility, by assuming that those who undertake to carry out the instruction will have in view a practical application in some form of what they may acquire either as teachers or penmen.



Cut No. 1—Giving correct position of hand and pen, also showing action of the hand, with forearm working back and forth without sliding the sleeve, in making the direct muscular movement.

Position.

The position of the hand and pen, in learning to write, is of such vital importance that any neglect to secure and maintain the standard position will be almost certain to result in failure; any attempt to evade this point by trying to do it your way, because it appears less difficult, will simply defeat

Correct position indispensable.

its accomplishment. If you value success in this work, be sure that you begin right in pen holding, and then be very careful that you keep right.

The directions for securing this have reference to placing the body in such a position at the table (not always applicable to school desks), as will admit of an unrestricted use of the right arm, hand and fingers. In teaching position to school children, let them turn the right side, placing the right arm on the desk parallel to its front edge; left hand brought to the edge of desk to hold book or practice paper, both feet on floor, etc., straighten the arm until the elbow comes near the front of the body. When practicing at a table take a position, nearly square in front, with both arms resting, the left with the elbow projecting over the edge two to four inches, and brought near the body.

This latter direction cannot be observed if the top of the table is much more than two inches above the elbow joint when the arm is dropped by the side. A low table or high chair is much better for movement practice.

Sit close to the table, but without the body touching it. Steady your position by leaning upon the left arm only, the right resting very slightly. The relative position of the right fore-arm and upper arm should be such as to form a right angle at the elbow. Open the right hand, placing it perfectly flat upon the table, palm touching and arm resting as described above. Now observe carefully the position of the wrist and fore-arm, the former slightly raised, the latter resting lightly on the bunch of muscles below the elbow. If you have followed directions, both are in correct position. Be

very careful to keep them so by frequently repeating the above.

Movement.

Without changing position, close the right hand firmly, raise it just enough to clear the table, and balance on the muscles of the fore-arm, not allowing the wrist to touch; now, using the muscles of the shoulder in conjunction with the shoulder and elbow joints, work the fore-arm back and forth in its own direction, pushing out and drawing in, but without sliding the sleeve. The sleeve should remain stationary as if glued to the table, while the wrist works out and in, impelled by action of the shoulder muscles.

The simple motion thus produced on a direct line with the fore-arm is the key to all muscular movements, and should be practised daily until the action of the muscles brought into play becomes perfectly easy. The fore-arm in this direct motion will carry the hand back and forth a distance of from one to one and a half inches without sliding the sleeve. Take a careful gauge of your own movement, and then see how you can increase it by practice. This movement should be made slowly at first—sixty per minute—and then gradually worked up to two hundred and fifty, but always up to the full limit of distance.

The key to muscular movements.

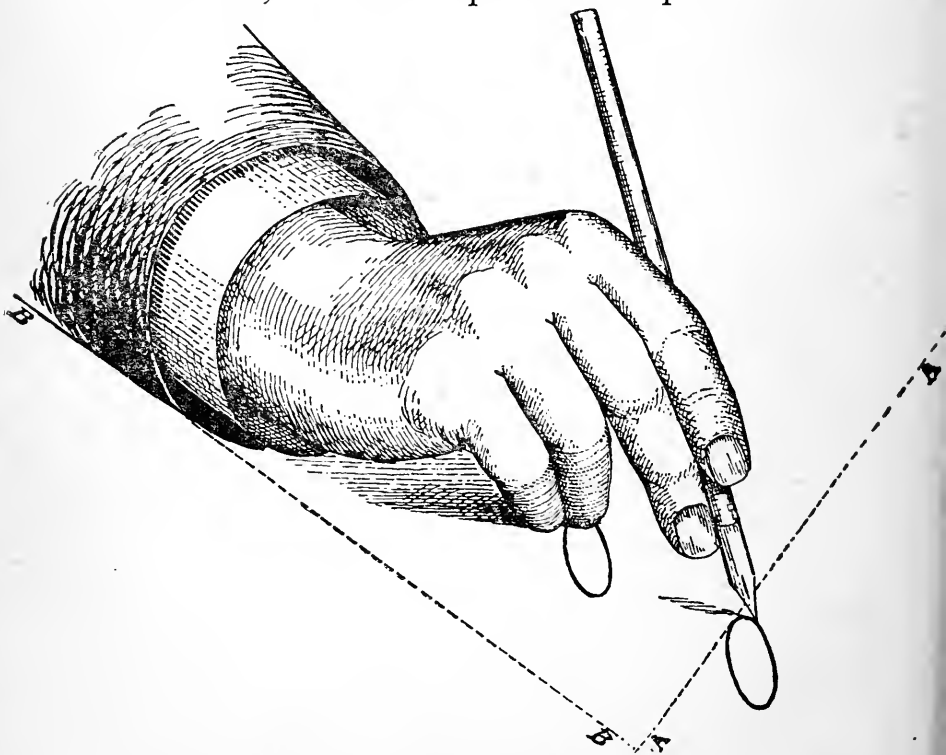
After thorough drill on this movement, change the motion to one which will produce an oval instead of a straight line, at first going around in the direction which would form the letter O, and then in the opposite direction. But don't attempt the second until you can make the first perfectly. Just make up your mind to

do one thing at a time, and to try to do that well. It will be better if you do not take up the pen or try to make any exercises with ink until you have faithfully carried out the suggestions for muscular practice as given.

If it takes you one or two weeks to accomplish it, you will have made a good investment of your time, and will be saved double as many months of future practice by adopting this course.

POSITION AND MOVEMENT COMBINED.

After this, the next step will be to place the hand



Cut No. 2.—Giving correct position of hand and pen, and showing simultaneous movement of pen point and hand, the latter sliding on nails of third and fourth fingers, with fore-arm working in the sleeve: The dotted lines show position of paper in practising. *B. B.*, direction of arm; *V. V.*, direction of ruled paper.

and pen in correct position, and then to go through the same movement exercises as described above without touching the pen point, and by gliding on the nails of the third and fourth fingers. Make a careful study of the two cuts of hand, pages 71 and 74, observing especially how the thumb and the third and fourth fingers are placed; end of thumb opposite first joint of forefinger, third and fourth fingers bent inward until they rest upon the nails—not the tips, but now nearly flat.

Now practise upon the movements; first the direct, as shown in cut 1, and then the oval, as shown in cut 2, in each case sliding upon the nails, the pen point just above but not touching the paper, and without any action of the joints of the thumb or first finger.

Special point to be gained.

A special point to be gained here is to learn to carry all the weight of the hand on the nails of the third and fourth fingers, so that when the pen is allowed to touch the paper the point will glide over its surface without friction. The movements must be produced by a free action of the entire arm; get all the motion you possibly can without sliding the sleeve; study these movements carefully, watch the action of the upper arm and observe what muscles and joints are brought into play.

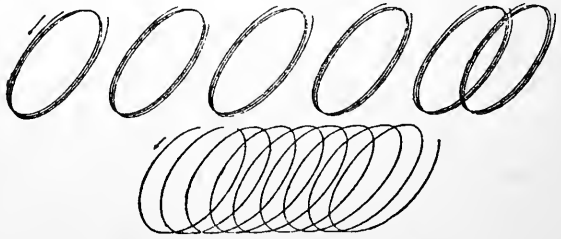
Try to realize that for the present you will have no use for your fingers in this practice, except to hold the pen and support the hand, that every line and curve in writing may be produced with the muscles of the shoulder and the upper arm while resting upon the forearm, and that only the shoulder and elbow joints need to be brought into use. As soon as you understand this point clearly you will discover that one way of learning

to write is to put these muscles under training, and to discipline them until they come under complete control. We have already indicated how the first steps in this important work may be taken, and trust that you are disposed to give it a fair trial.

A good exercise, calculated to develop tho muscles of the fore-arm, is to close the hand tightly and then quickly throw it wide open. Make the movement from twenty to fifty times, with the arm extended, and repeat many times every day. You will find it an excellent practice.

In practising the ovals with pen and ink, remember that the movement of the arm and hand immediately preceding the formation, is of more value than the making of the oval itself, the former constituting the real disciplinary drill, the latter being merely a record of the movement attained. Place your hand in the position shown in cut 2, being careful that the penholder, crossing the forefinger in front of the knuckle joint, points nearly at your head, as it will if the arms lie flat. Glance at cut No. 1, and observe if the third and fourth fingers are in position to slide onthe nails, see also if the thumb is placed opposite the first joint of the forefinger.

EXERCISE NO. 1. DIRECT OVAL MOVEMENT.



Before taking ink and without touching pen to paper,

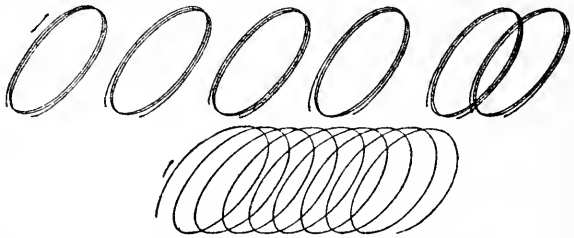
make the direct movement fifty times quite rapidly. Rest. Next make the direct oval movement, or that which forms the letter O, fifty times. Now take ink, and again placing the hand in exact position, the forearm crossing the ruled lines at right angles, but without touching pen, make the direct oval movement thirty times, gauging it so that it appears to move exactly one space in height; at the thirtieth count, but without checking the movement, let the pen drop lightly on the paper and continue the movement for twenty strokes. At first you will make no special effort to guide the pen in forming an oval, but simply allow it to make an exact record of your arm movement.

Repeat this until the movement will naturally form a perfect oval. The rate of speed in doing this work will vary from one hundred to one hundred and fifty per minute, counting down strokes only and making a complete oval at each count. In practising the last section of this exercise, which introduces the extended or continuous movement from left to right, drill the movement down to about sixty or seventy-five strokes per minute; then taking ink and placing the hand in position, count thirty slowly, and at the thirtieth count let the pen drop and continue the movement across the paper, making the exercise exactly one space in height and without any shade.

Exercise No. 2. Reversed Oval Movement.

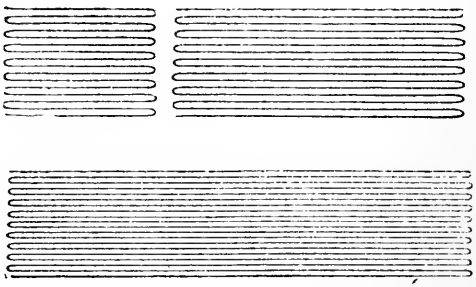
Before commencing on the second exercise go through the same preparation as for number one. If you hurry over this preliminary drill, you will be making a serious mistake. Each step, as described before, is of equal im-

portance, and should be faithfully followed out. Your success will depend largely upon the thoroughness with which the work of this lesson is done, and "make haste slowly" will be a good motto for you to adopt.



Exercise 2 consists of the revised oval movement first of the capital W. Proceed as in number one, forming the movement first, and allowing that to make the ovals. After the pen touches, make at least twenty strokes on each oval.

EXERCISE NO. 3. LATERAL OR EXTENDED MOVEMENT.

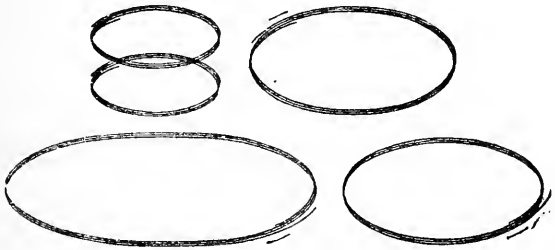


Make the spacing between the lines wider, so that eight of the first two sections or ten of the third will fill the space between ruled lines on paper.

In making *Exercise* 3 we drop for a time the muscular oval movement and practise the side or lateral. This consists of balancing on the muscles of the fore-arm, making that point a pivot, and sliding the hand back and forth from left to right on the nails of third and

fourth fingers. With the arm in this position, the pen point would, if long sweeps were made, form the arc of a circle; a very slight action of the muscle is necessary to keep the strokes parallel with the ruled lines. This is a valuable exercise, and should receive special attention. Practise first as indicated in the copy and then extend the movement until you can swing the hand entirely across the page, making a steady, straight line, and keeping the hand always up in correct position, using only the elbow joint.

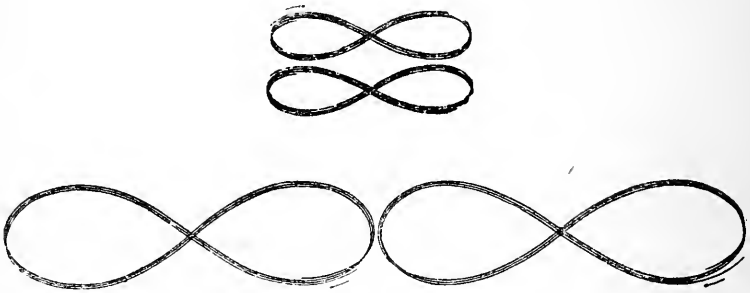
EXERCISE NO. 4. COMBINED, REVERSED OVAL AND LATERAL MOVEMENT.



Exercise 4 combines the movements of 2 and 3. Before making it with the pen, drill carefully to form the movement. Get the hand accustomed to swinging out to form the lateral oval, by going through the same process as indicated for number one. Practise it first as a reversed oval, going over the top toward the right. Watch the third and fourth fingers in the preliminary drill, and observe if they are moving so as to form a perfect oval. The movement of these fingers on the paper must, in all these exercises, be identical with that made by the pen. When you find the movement will form these ovals easily, reverse it and practise making them as direct ovals. Always count thirty

strokes, with the hand moving to form the oval, before you let the pen touch the paper. Keep in mind the greater importance of this preliminary drill.

EXERCISE No. 5. COMPOUND CURVE, LATERAL MOVEMENT.



Exercise 5 introduces the compound or double curve movement, and, as this may prove somewhat difficult, care should be had not to use the joints of the thumb or fingers in making it. Drill persistently on it before taking up the pen, and then with pen in hand, but not touching paper, go through the movements over and over again, also reviewing in turn Exercises 1, 2 and 4, and then back to 5 again. This movement must come from the shoulder. Do not allow any action of the wrist joint. Make this exercise small at first. Watch the third and fourth fingers when making the movement, and be sure they are tracing the same double curve form on the paper.

You will get much better results from your labor by devoting all the time you can get to practice, to learning to do well the exercises suggested by this lesson. Don't scatter your forces by attempting to cover too much ground.

Concentrate all your energies on a single purpose. Get position and movement. Seek first to educate the muscles of your arm and hand, to bring these useful members under the subjection to the will. The accomplishment of this is the golden key which will unlock the door to future successful practice. Don't be misled by the old adage that "practice makes perfect." Learn that practice in writing has little or no value unless it be well directed and intelligently applied.

The golden key.

It is within your power to become a good penman, but don't attempt to accomplish this by any means except that which leads through persistent, thoughtful effort. We want every reader of this lesson, who is not already a proficient, to learn to be a good writer.

The next exercises are directly dependent upon the preceding ones and the reader who has gone over them all carefully, practising as suggested from the various exercises, and thereby acquiring the foundation principles of position and movement, will be much better prepared to take up the work which follows and to obtain more profitable results from his labor. The more you work at this problem the more will you be convinced that thorough drill in these initial movements is the surest and quickest road to successful practice, and that if persistent, you cannot fail to reach it.

Review constantly.

Before beginning practise on Exercise No. 6, you will do well to refer back to No. 1, reading over carefully the suggestions which precede that copy. If you are a beginner, and are now for the first time trying to acquire the muscular movement, you will do wisely if you divide up the time devoted to this work as follows: Give one-

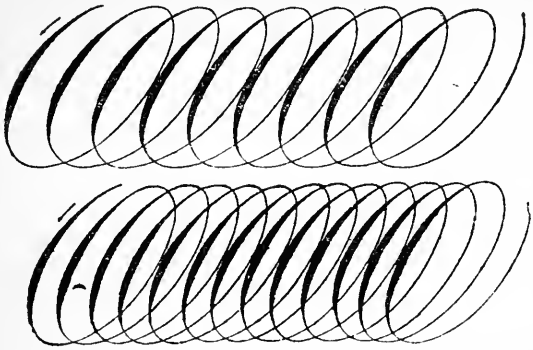
half of the allotted time each day to practice on the drills described under the head of *Movement,* and without the pen. Call this if you please the technique or gymnastics of penmanship—its importance may not at first be apparent—but experience will soon teach its value, and convince you how indispensable it is to correct practice. Give one-fourth of the time each day to practice of the same drills, with the pen in hand, without ink, and without allowing the pen point to touch, simply sliding the hand on the nails of the third and fourth fingers, and the remaining fourth of the time to practising with pen and ink from some of the various exercises, taking them up in regular order and practising from but one copy each day.

Persistent repetition.

It is the constant, persistent repetition of an exercise which tells in forming the muscular movement, and if you acquire the habit of taking up a single exercise only for each stated lesson, you will secure better results. And, lastly, if you want to learn to write well, and accomplish it quickly, keep at the exercise, and, while trying to establish correct habits of position and movement, do not waste much time practising from letters, words or sentences. In Exercises 1, 2, 4 and 5, do not imitate except in form. The lines shown merely indicate the direction of the movement, and you will make ten or fifteen strokes with pen instead of two or three lines as in copy. The last sections of 1 and 2 are exceptions.

When practising without touching the pen, or without the pen in hand, use the same thoughtful care and precision of strokes as if you were forming a copy with ink.

EXERCISE NO. 6. DIRECT OVAL, EXTENDED MOVEMENT, SHADED.



Make with a slow movement, counting one for each up and down stroke.

First correct the position of your hand, by comparison with cuts 1 and 2, of this lesson. Next, form the direct oval movement two spaces high, a space being the distance between blue lines on paper. By forming the movement is meant the process of drilling the arm and hand to describe the given oval or form, with muscular movement, pen in hand, point just above, but not touching the paper. Go around on this forming movement fifty times rapidly, making entire oval at each count, and then fifty times slowly, counting one each for up or down stroke.

Now take ink, and after placing the hand in position, count thirty slowly, one for each up or down stroke, and at the thirty-first count, drop the pen on the down stroke, and continue the movement as shown in copy. While making the exercise, watch the third and fourth fingers, and observe if they keep the same movement as the pen, tracing the same size and form of oval.

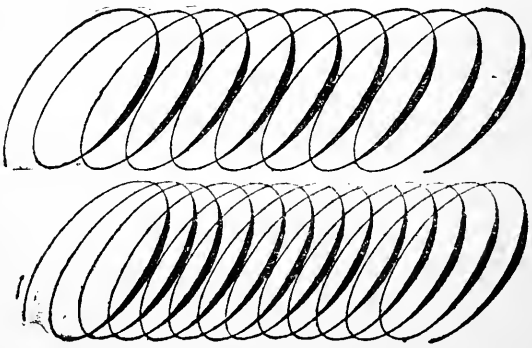
In practising this exercise, use the muscular movement, so far as possible, the shades being produced by

a pressure of the forefinger on the pen-holder. Observe that this is written upon the regular slant, every down stroke shaded, the curves on either side equal and parallel to each other. Pay more attention to the movement than to the form. Compare the position of hand and pen while writing, with cut No. 2, and see if the pen-holder points at the head, and also notice if the down strokes come toward the body on slant.

Questions for examinations.

After writing a line, ask yourself the following questions, and examine your work carefully: Was your position correct? Did you use the muscular movement? Are you making an oval whose width is two-thirds its height? Are the curves at top and bottom equal? Does the exercise just fill two spaces? Are the curves parallel and equi-distant? Is the shade heaviest at centre? Do you use both points, or nibs, of the pen equally? Is the slant correct? Do you slide the fingers on paper?

EXERCISE No. 7. REVERSED, OVAL, EXTENDED, SHADED.



Place the hand in position and drill carefully to form the reversed oval movement. In forming the movement

for this exercise, and for No. 6, it will be a good plan to practise it up to three spaces in height, drilling with a very rapid movement, without touching the pen, until the pen swings with more freedom; then drop back to two spaces, and finally to one, drilling quite slowly. Please remember how important this preliminary drill is, and how much will depend upon doing this part of the work thoroughly.

Take ink, place the hand in position, count thirty slowly, one for each stroke up or down, and at the thirtieth count drop the pen and continue the exercise as shown in copy, making the same number of shaded strokes two spaces high.

The slope, or inclination to the right, should be fifty-two degrees. This is on the regular slant of writing, and applies to all copies which have been given except 3, 4 and 5. The slope.

If you hold the hand as shown in cut 2, on page 74, and follow directions as to position of pen-holder and paper, the curved lines will naturally cross the spaces obliquely and on the right slant; but if the hand turns over to the right, and the pen-holder fails to point at the head, your curved lines will have a vertical position.

In writing this exercise remember that you are to repeat the form of an oval, whose width is two-thirds its height, and that you are not to make a series of circles. Criticize your work carefully in this respect, referring to Exercise 1 and 2, pages 76 and 77, and practising thoroughly the forming movement. Practise writing Exercises 6 and 7 one space high.

In writing this pay particular attention to movement. Use the entire arm freely, but without sliding the

sleeve, and keep the third and fourth fingers sliding on the paper. Make the shades heavy, but firm and smooth, keep both points of the pen on the paper. Write with a free, bold movement, let the hand swing freely, but keep the movement uniform and steady, so as to produce equal shades and curves. Form the shade by making a slight pressure of the forefinger on the pen-holder.

In practising movement exercises, it is important that the beginner should early learn to criticise his own work, and you will find the study and application of the questions given with this lesson of much assistance in this respect.

QUESTIONS FOR EXAMINATION.

Have you practised with a free movement?

Are the curves uniform with a bold smooth shade?

Are the two sections looped differently, as in copy?

Does the pen-holder cross the forefinger just back of the middle joint?

Do you keep end of thumb opposite the first joint of the forefinger?

Is the slant like copy?

Are the curves uniform and down stroke correctly shaded?

Does the pen-holder cross the second finger at the root of the nail?

Are the third and fourth fingers separated from the others, bent inward and kept sliding on the nails?

Is the shading heaviest at the centre of the curve?

Are you making an oval of the right proportions?

Are you producing the movement with the shoulder muscles?

Do you give sufficient time to practice of the forming movements before writing the exercise?

Do you make a thorough drill on each exercise in order before attempting the next?

GENERAL HINTS.

Do not attempt too much—do not expect too much, on first introducing the movement drills, and do not get discouraged if the apparent results are not up to your anticipations. Especially do not look for any immediate results in the application to *forms* of writing.

Remember that the primary object is to encourage and develop certain definite habits of arm movement, which, when acquired and brought under control will aid in establishing a more practical mode of writing. Keep in mind that the quality of the movement must be measured by character of the form produced, and that as a rule the easier the pupil writes the better will be the style of this penmanship.

Encourage home practice on the simple arm movements and so far as may be practicable seek to create a feeling of general interest in the new work by explaining clearly to each pupil the reason for and the specific object sought, in training the arm to do the work of the thumb and finger.

The arm stronger than the fingers.

You will doubtless in nearly every case have to contend against an accumulation of adverse habits; they may be the result of years of pernicious practice, and are probably closely interwoven and identified with every thought or action relating to writing; they will naturally be held to with a tenacity which you will find it difficult to break. But

as it will generally be found that these faults of position and movement involve the use of only one set of muscles, those controlling the action of the fingers and thumb, and as the arm governed by the shoulder muscles is much the stronger member, it is not only possible but certain that you can by patient effort build up a counter habit which by becoming stronger will overcome and in good time replace the bad ones.

With plenty of faith, an abundance of pluck, and an earnest desire to surmount all obstacles, you will be able to break away from those musty traditions which idealize form and symbolize penmanship as an art beyond the reach of common mortals, and find ample success in the new possibilities brought to light by the modern muscular dispensation.

This method of teaching penmanship is presented in the Wells System of Penmanship, four books at 10 cts. each.

No. 1 presents a series of twenty-four oval exercises, combining in simple form all of the curve movements employed in writing—and may be used to advantage through two terms. It is designed to teach arm movement, pure and simple, and being grouped progressively the exercise leads up naturally to the application.

No. 2. The first half of this number contains a most valuable series of drills in large text hand, by means of which the straight line movement so essential to correct formation is thoroughly mastered, and a strength and character imparted to the arm movement, unattainable by any other method. Incidentally the correct form and analysis of all one-space letters are brought out.

The second half introduces the standard capital letter movements systematically grouped and followed by drills on the letters themselves.

No. 3 is designed through a series of well arranged exercises to develop and apply the sliding or lateral movement in connec-

tion with the arm action. The movement acquired by this drill is the essential element in all business or current hand writing, giving both freedom and smoothness to the text. This number introduces the forms of all small letters and capitals, with a complete drill on the numerals.

No. 4 gives a very attractive series of extended capital movement drills, together with useful combinations of the capital letters in connection with words. The special object of this number is to promote freedom and speed in execution; it also contains a review of all the letters.

Every line in the four numbers is intended for movement practice, and, except when shading is introduced, may be written exclusively with the arm action.

In the Syracuse schools, where the method has been in use since 1879, numbers 1, 2 and 4 are each used two terms, and number 3, four terms.

FORM STUDY AND DRAWING.

I. GENERAL PRINCIPLES.

The term Drawing very inadequately expresses the nature of the study it is desirable to have taught in the schools under the name. When the study was first introduced into the schools, it was very properly called drawing, inasmuch as the work of pupils consisted principally of drawing from printed copies, and the instruction was devoted mainly to the training of the hand and eye in copying. As the study has developed, however, under the influence of educational methods, the character of the instruction and the work of the pupils have entirely changed.

Development of the subject.

The study of Form as observed in models of type-forms and in objects, has taken the place of the study of printed copies, and the instruction has been broadened so as to include the cultivation of the observing powers by the study of things on the one hand, and the expressive powers, through making, drawing, and language on the other;—drawing, however, beyond the elementary work, being the principal means used in expressing form knowledge and its applications.

Observation and expression.

Thus it will be seen that drawing is only a feature in the important study of form, while in the applications of form knowledge, both in education and in practical life, it becomes the principal means of expressing thought. Hence, the proper title

The proper title.

for the study that is now desired in the schools is Form Study and Drawing, and not Drawing alone.

The following syllabus arranged by the late Dr. John French has been adopted by the State of New York in accordance with this idea of the study; and is divided into two parts. The first or elementary part is devoted to gaining a knowledge of the properties of forms from models of type-forms, and from objects based on them. In this division it is intended that the aim of the instruction shall be to develop the pupil's powers of observation, and to give training in the means of expressing thought in regard to form, through making, drawing and language.

The New York syllabus.

In the second division the study of form in objects is still continued, but it is now the aim of the instruction to give expression to this form knowledge, and to make applications of it mainly through drawing. In this division the course of study prepares broadly for general education and for practical life.

COURSE OF STUDY.

Type-Solids.

First year.

1. Sphere.
2. Cube.
3. Cylinder.
4. Hemisphere.
5. Square Prism.
6. Right-Angled Triangular Prism.

Second year.

1. Ellipsoid.
2. Ovoid.
3. Equilateral Triangular Prism.
4. Cone.
5. Pyramid.
6. Vase Form.

Method of study:

a. By sight. 1. As wholes.

b. By touch.
c. By arrangement.

2. As to faces.
3. As to surface.
4. As to edges and corners.

Ways of expressing:

1. By language. 2. By making. 3. By drawing.

Plain figures to be taught:

1. Circle.
2. Square.
3. Oblong.
4. Right-Angled Triangle.
5. Equilateral Triangle.
6. Isosceles Triangle.

Lines are to be taught:

As to directness:

1. Straight.
2. Curved.

As to position:

1. Horizontal.
2. Vertical.
3. Oblique.

As to relation:

1. Parallel.
2. Perpendicular.
3. Converging and Diverging.

Third and fourth years:

1. Continued study of the twelve type-solids; and,
2. Study of natural forms based upon them.
3. Teach reversed curves, symmetry and proportion.
4. Drill in position, pencil-holding, pencil-movements, and quality of line.

Notes.

(*a*) The first half of the first year the work is to be mainly the study of the six type-forms, with some attempts at representation by stick and tablet-laying. No drawing as a regular exercise is to be required this half year.

(*b*) In the second half of the first year simple exercises in paper-folding and paper-cutting are required. Drawing is to begin in this half year.

II. PRACTICAL EXERCISES.

As the study of form is essential in this work, it is necessary at the outset for every student to be provided with models of the solids, in order to acquire the form-knowledge officially required.

Necessity of models.

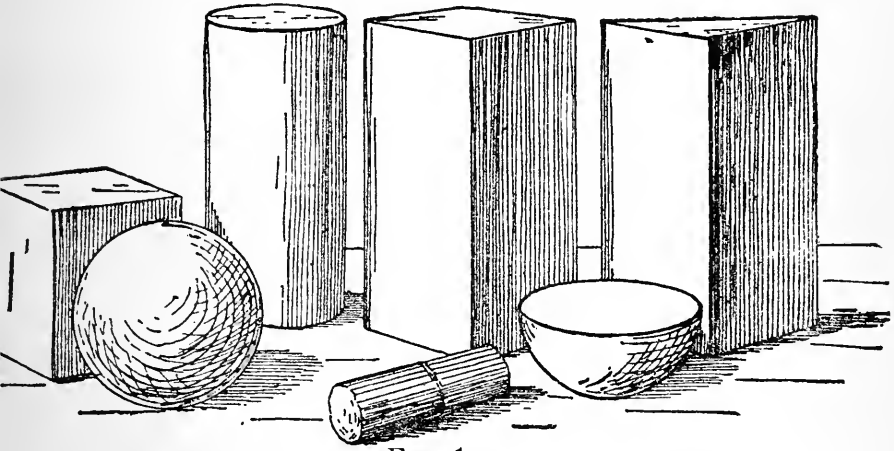


FIG. 1.

In the illustration, Fig. 1, we see the type solids of the first year arranged in two groups, the group on the left containing the sphere, cube and cylinder—that on the right, the hemisphere, square prism, and right-angledtriangular. The six solids will furnish sufficient material for illustrating the subject here.

1. STUDY OF THE SOLIDS AS WHOLES.

The first step in the Methods of Study is to take the solids as a whole, in accordance with the well-known educational maxim, first the whole, then the parts. The study of a solid at first must not, therefore, deal with the details of surface, face, edge, and corner, but must consider the solid simply as a whole.

The solids as a whole.

b. Study by Touch.

Grasp the sphere in one hand, roll it between the two hands, hold the sphere with the fingers of one hand, turn it with the fingers of the other hand, figure 3.

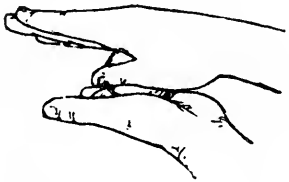


Fig. 2.

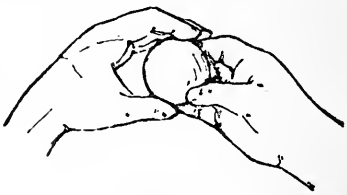


Fig. 3.

Hold the sphere tightly in one hand, grasp the cube with the other hand, figure 4. What impressions are received ?

The sphere is smooth and pleasant to hold.

The cube has sharp points and hurts the hands.

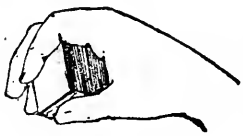


Fig. 4.

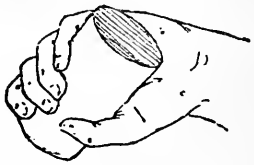


Fig. 5.

Grasp the cylinder in various ways. Fig. 5.

The cylinder is pleasant to hold in one way—held in another way it cuts the hand.

Move the fingers over the solids in different directions.

The sphere feels the same all over—the fingers move easily all over it.

The cube feels smooth in some places and sharp in others.

The cylinder feels something like the sphere and something like the cube.

a., b. Study by Touch and by Sight.

Put the models on the desk or table—experiment with each separately as to rest or motion.

The sphere will roll.

The sphere will stand.

The cube will not roll; it will slide and will stand.

The cylinder will roll; it will slide and it will stand.

The sphere will roll in every direction and however placed.

The cylinder will not roll when it is upright; when it is lying down, it will roll, but not in all directions like the sphere.

Examine each model as to dimensions—how do its different dimensions compare with each other?

In the sphere, the width from left to right, the width front to back, and the height are equal.

In the cube, the width from left to right, the width from front to back, and the height are equal.

In the upright cylinder, the width from left to right and the width from front to back are equal, but the height is greater than the width.

After the children have passed the kindergarten age, it is desirable to introduce new features and greater variety. The sphere and cube cannot be changed in proportion; but the cylinder may vary very much in the proportion of the height to the other two dimensions. By using a cylinder higher than wide, two new elements are introduced, that of proportion and that of greater beauty of form. The cylinder, in which the height varies from the width is much more beautiful than the cylinder in which these dimensions are equal. It will be noticed that cylindric objects hav-

For older children.

ing the three dimensions equal are very rare; but that those objects in which the height is greater or less than the width are very frequent.

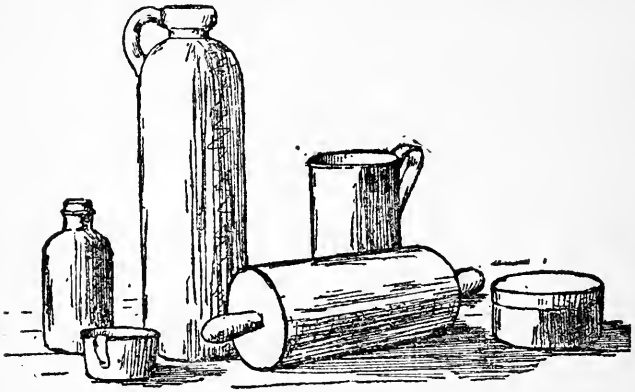


Fig. 6.

In considering the elements of proportion in the cylinder at this stage, it is desirable to choose a proportion easily appreciated. Therefore, the cylinder given for primary work has the very simplest proportion, that of 1 to 2.

Build up the sphere, cube, and cylinder and new revelations will be made concerning them. Try the arrangements illustrated and any others which may occur to you. What do you learn ?

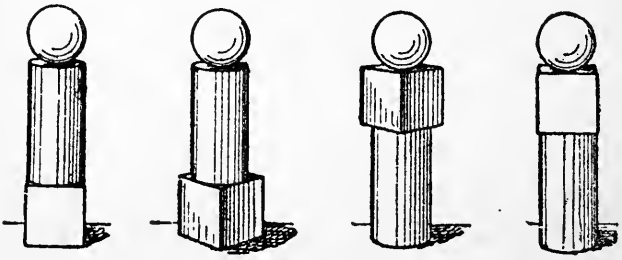


Fig. 7.

The sphere can have but one position.

The cube and cylinder can have several positions.

The sphere and the horizontal cylinder cannot be used as foundations in building.

c. Study by Arrangement.

Try now to arrange the solids in rows; seek for pleasing arrangement. You will find yourselves, perhaps, working for an orderly and symmetrical arrangement, figure 8.

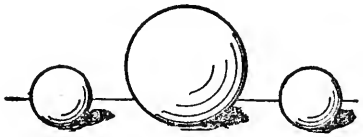


FIG. 8.

a. Study by Sight.

Hold each model up before you, figures 9 and 10; turn it in any way you please. How much of it do you see?

The sphere cannot be held so that more than half can be seen; neither can it be held so that less than half is visible.

FIG. 9.

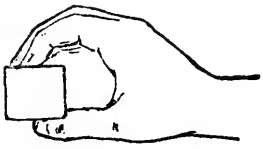


FIG. 19.

The cube and cylinder cannot be held so that more than half can be seen*; but they can be held so that less than half can be seen. Figures 11 and 12.

* These statements need a little modification when very small models are used.

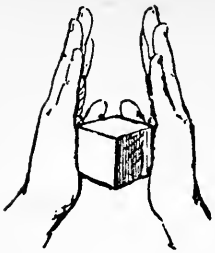


FIG. 11.

FIG. 12.

2, 3. STUDY AS TO SURFACE AND FACE.

Definitions.

Surface in its geometric signification means simply length and breadth without thickness. But when applied to objects, it is used differently.

The surface is the whole outside of a thing. A face is a limited part of a surface.

Classification of surfaces.

The ordinary and general classification of surfaces and faces is into two kinds, plane and curved. This is a broad classification; but for the purposes of Form-study, a more specific classification is necessary. Take the sphere in your hand; turn it over, you will find that it is round all over. If you apply a rule or any other straight edge to it, the rule will touch the sphere at but one point. And moreover this surface or face is continuous; turn the sphere as you will, you will find the surface unbroken by an edge. Such a surface or face is called *round.*

Round and rounding.

Looking over your solids you will find another resembling the sphere in part but it has two faces; one of these faces is round in character as far as it goes, but it is not completely round and is limited by an edge. Such surfaces or faces, being in some ways like a sphere, are called *rounding.* A ruler

applied to any one of them will touch at but one point.

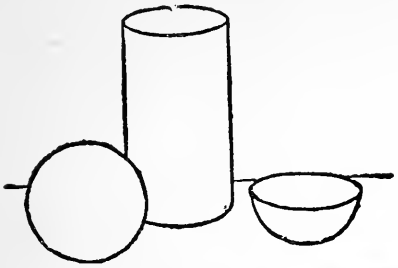


Fig. 13.

Take now the cylinder; applying the ruler to its length, you find that the ruler touches the cylinder throughout its entire length. Turn the ruler and apply it across the same face and it touches at but one point. You will find also another solid among the twelve that has a similar face. Such faces, that are round one way and straight one way are called curved faces.

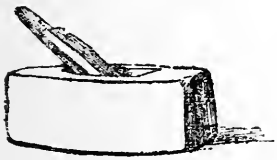


Fig. 14.

Take the cube; its faces are all flat, as if they had been planed off. Such faces are called plane faces.

Make a list now of six solids classified according to the kind of faces, beginning in this way:

Round face; sphere.
Rounding face.

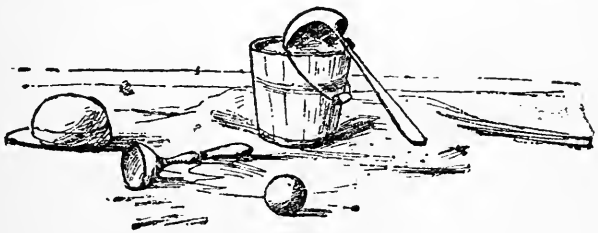


Fig. 15.

Now study the objects in the illustration, figure 15, with reference to the kinds of faces. Remember that all Form-study should be carried on from the type-solids to its application in objects.

4. Study as to Edges and Corners.

Make a list of the six solids classified according to edges. Find all the solids having no edges, all the solids having straight edges, all the solids having curved edges, and write a classified list. Remember that in each of these vraious classified lists, every one of the twelve solids must be included.

The classification as to corners is exceedingly easy. Find the solids, like those in the illustration, figure 16, and place them as there shown. Consider the two models together as one; study all the corners. Which of the corners are square? Which of the corners are sharp, that is, sharper than a square corner? Which of the corners are blunt, that is, more blunt than a square corner?

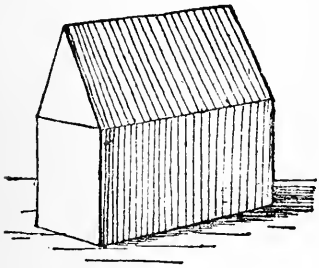


Fig. 16.

The limits of this volume will not permit us to carry the subject farther. The instruction here given is in accordance with the methods now approved by the leading educational men, and teachers who are ready to carry it farther will find it fully developed in the manuals of the Prang Educational Co., Boston.

LANGUAGE.

We are not of those who wish to do away with grammar; *every teacher should understand it,* and pupils who are able to comprehend and assimilate it should be encouraged to study it. But a majority of pupils have formed a distaste for it because it was introduced at too early an age. Lessons in Language should receive attention *from the first;* but they should be free from all definitions, grammatical rules, analysis and parsing; these only clog the memory and signify nothing but mere notions of general terms.

Grammar should not come too early.

The object of the study of grammar is "*To teach the science of language, and the art of correct expression.*" The study of our text books on grammar does not, as a rule, attain these results. Why? Because grammar, proper, is a study of only the science of language. Scientific grammar belongs to the advanced course; before the age of twelve years, pupils should study only the art of expression.

Object of grammar.

In Language the duty of preparing the soil, and planting the seed, is with the primary teacher. *Only correct sentences* should be used in the presence of the pupil; if the teacher do not err in this direction, the ear becomes accustomed to correct forms of expression, and the child will unconsciously acquire them. This does not come from classifying, conjugat-

Example more than precept.

ing, and declining. Pupils must learn the *art* of language, and through the art come up to the science.

Language is a growth. It cannot be stereotyped. Language and thought have reciprocal influence. Right habits of language produce right thinking, and vice versa. The language of a person is a test and evidence of his thoughts and mental culture. The chief cause of alarm is on account of the woful ignorance of English and the faulty use of our mother tongue among nominally intelligent and educated people—even among teachers, who of all others should use pure language. The teacher is responsible for the language of his pupils.

How good English is acquired.

We acquire language through imitation; the pupil who has always heard good language, will use good language; his ability to use good language does not depend upon his knowledge of grammar, but upon his having heard good English, read good English, and practised good English. Without further comment upon language we would say, that whatever else may be omitted in teaching—*no teacher can afford to dispense with the language exercise.*

"I had rather speak five words with my understanding, that by my voice I might teach others also, than a thousand words in an unknown tongue."—*I. Cor. XVI.* 19.

SUGGESTIVE METHODS.

I. Directions.

1. Ask the children to tell the names of the objects—
   a. In the school-room, the yard, the house, etc.
   b. Made of wood, iron, gold, wool, cotton, etc.
   c. Manufactured by the carpenter, moulder, etc.

2. Ask the pupil to tell the names of the parts of things.

3. To name some of the quantities of things.

4. To tell the uses of things.

II. Cautions.

1. Insist on correct articulation.

2. Form *correct* ideas; then insist on the intelligent use of the terms.

3. Let every is exercise bear upon the *correct* USE of language.

III. Results.

1. A wide vocabulary.

2. Ready and correct use of words.

3. Increased mental power.

OBJECTS AS A WHOLE.

The pupils will at first mention the names of things in the wildest confusion. The teacher listens patiently for a few seconds, then kindly bids them to begin at a certain part of the room and to speak one at a time, and name things in order. System in naming.

In the answers, constant attention must be paid to the pronunciation of words—*distinct* and *correct* articulation being one of the first requisites of correct language. Yet this should not be insisted upon to such an extent as to make it *irksome* to the pupils. The child can attain perfection only gradually, and the teacher should *encourage* but not drive. Indeed, the child needs no driving; he will work cheerfully and zealously with the leader who has learned the art of working *with* the child. Correct pronunciation.

Incidental spelling.

As the names of objects are given by the children, the teacher should write these names in columns on the board, requiring the children to spell each word as it is written, assisting or correcting when necessary.

Simple statements.

Let the children say something about each object, the teacher helping them to determine how far the terms they apply are appropriate. The teacher should add to these descriptions the names, and lead the children on to the formation of simple statements in their simplest forms.

Reproduction exercises.

In the written exercise, the children should be led to observe that each sentence begins with a capital letter and ends with a period. The teacher will use judgment in the assignment of the directions in each lesson.

The directions should be written on the board *one at a time,* and the pupils requested to follow the directions, and read the statements from the slate. After an exercise has been carefully examined, the teacher should require the class to reproduce it.

The children may be supplied with little books, in which to write out these lessons at home. For some time they should not be required to originate anything for themselves, but merely to reproduce that which has been taught in school. They will find pleasure in doing that which they can do well.

When the objects in the room have formed the subjects of such lessons, those in the play-ground, the street, or in the fields, may be resorted to, gradually extending the circle to more remote objects.

At least a dozen lessons of this description should be given.

Parts of Objects.

After giving lessons on objects as a whole the teacher will ask the pupils to name the parts of objects, and the number of those parts. This is a second step.

In these exercises, the teacher should be careful not to let the children call that a part which is merely a property or an accident. A part of a material object is a portion of it; if the part is removed, the object will be diminished in size and weight. It is improper, then, to consider as parts the lines and surfaces of objects.

The exercises on the parts of objects should be varied in many ways, so as to arouse and maintain a lively interest in the pupils.

For example—the parts of a pin are the *head, shaft,* and *point;* of a chair, *legs, rounds, seat,* and *back.*

The first step to be taken in language is to obtain ideas. The second is the proper expression of the ideas when obtained.

The two steps.

To acquire ideas, it is necessary to cultivate habits of observation; to use the eyes in noticing not only entire objects, but also their different parts; to consider their qualities, uses, operations and effects, together with their relations to other things. The mind employed in such processes acquires material for its own operations, and develops ideas and thoughts as it were spontaneously.

Observation comes first.

For this exercise in language it is proposed that the children enumerate the parts of some visible object, something as follows:

A House.

Its parts are:

stone,	sills,	plates,	ceilings,
mortar,	posts,	rafters,	floors, etc.
joints,	doors,	shingles,	
beams,	nails,	chimneys,	

Glass.

Its qualities:

It is hard,	inodorous,
solid,	colorless,
smooth,	heavy,
bright,	durable,
transparent,	inflexible,
brittle,	insoluble,
cold,	dry,
tasteless,	fusible, etc.

Its uses:

For windows to admit the light;
For spectacles to assist the sight;
For useful vessels, such as goblets, pitchers, bottles, phials, lamps, etc.

Qualities of objects.

Thus far we have endeavored to teach the pupils the power of *rapid, complete,* and *accurate* observation, and to prepare them for *concise, complete,* and *accurate* description. The teacher in order to give the children information on qualities of objects, so that they may form *correct* impressions, should subject the object to more or less complicated experiments. The names of some of these qualities, *e. g.*, compressibility, flexibility, etc., must be fully illustrated.

This exercise will furnish opportunity for the teacher to invent means of entertaining children while instructing them.

Interrogate the children closely upon the uses of objects, and require them to write short compositions about objects, to tell the name, parts, qualities, and uses.

The teacher must have a plan of presenting subjects. Experience daily proves that an *unprepared* lesson, or what may be termed *extempore* teaching, is sure to be diffuse and indifferent; beside the teacher must NEVER FAIL to enter the class well prepared, not only in regard to the OBJECT on which he intends to exercise his class, but upon the ORDER in which the exercises are to be conducted, and upon the manner in which the individual pupils are to be interrogated. He must himself have clear and distinct ideas; must observe *accurately* and speak *carefully, concisely,* and *correctly.*

The teacher must have a plan.

Without these requisites the teacher will fail in language. Let him study carefully Fitch's admirable little book on "The Art of Questioning."

WORDS AS OBJECTS OF OBSERVATION.

I. Directions.

1. Give the children words similar in pronunciation, but different in spelling.
2. Ask the children—
   - *a.* To find the words in the spelling-book.
   - *b.* To write all the words they know, that have the words mentioned in them.
   - *c.* To make a spelling-lesson of the words named.
   - *d.* To write statements, using the words named.
   - *e.* To write a composition, using the statements.

II. Cautions.

1. Require the children to answer in *full* statements.

2. Give constant attention to distinct articulation.
3. Correct the common errors in pronunciation.
4. Make the exercise pleasant and instructive.

III. Results.

1. The children will understand the meaning of words.
2. They will learn correct, simple expression.
3. They will learn how to write and to spell.

A real exercise.

An exact copy of a lesson given in the Primary Department of the State Normal school in Buffalo, New York, is here appended.

The words for practice, *beech* and *beach*. List of words, given by the pupils:

I. Beech.

1. beech-tree,
2. beech-nut,
3. beech-leaf,
4. beech-wood,
5. beech-root,
6. beech-twig,
7. beech-bark,
8. beech-oil.

II. Beach.

1. sand-beach,
2. shell-beach,
3. pebbly-beach,
4. beach-timber,
5. Rye beach,
6. ocean-beach.

Sentences Written by the Pupils.

I. Beech; a tree.

1. The *beech*-trees make a nice shade in summer.
2. The *beech* has a smooth green bark.
3. The squirrel hides *beech*-nuts in his hole for winter.
4. *Beech*-wood snaps in the fire.

II. Beach; a sandy shore.

1. Year before last we all went to Rye *beach* in vacation.
2. O, see the pretty pebbles I picked up on the *beach!*

3. What fun it is to walk barefoot on the dry warm sand, down on the *beach*.

THREE OF THEIR COMPOSITIONS.

1. A beech-tree is a very large forest tree. It has little three-cornered beech-nuts on it. I was out in the country once and I saw very many little shells of the beech-nuts where the squirrels had been. The beech-wood snaps when you put it into the fire, and makes a very hot fire.

2. I went down to the Beach one day and the sand was all smooth. I was on the Beach of Lake Michigan once and made little houses of the beach pebbles in the sand. Rye Beach is where the people go to bathe in the summer.

3. A squirrel is a animal that eats beech-nuts. When you burn beech-wood it crackles and snaps all on the carpet like ashes. The beech-tree grows to be very large and when it is very large men go and chop them into wood the beech-nut is very good to eat I had some twice and they were good sometimes people get oil from the nuts; beech leaves are good to chew they have a sour taste they are very good; beech nuts are as big as the end of the finger they are three-cornered the beech-nut tree grows in Europe and america.

The last was written by the youngest girl in the class, aged eight. All are printed just as written.

Children from eight to ten years of age will do this work, if the teacher directs them.

Suggestions.

The teacher should spell and pronounce such words, as the children cannot, and also tell their *exact* meanings and illustrate them. If possible, let him draw a picture at the board,—an indifferent one is better than none.

The object is to teach spelling and writing as well as correct simple expression.

The exercise will not prove irksome, but pleasant and instructive.

All erroneous expressions uttered by the children should be immediately corrected and the proper words fixed upon the mind by repetition.

In the daily work of the school-room, all definitions of the meaning of words, and all descriptions of places, objects, or events, whether given by the teacher to the children, or elicited from them, should be clothed in simple and definite language, and fixed in the memory by repetition.

The children should be trained to give complete answers to *all* questions put to them. Experience teaches that nothing more tends to make an idea clear to the mind, and to render it a permanent possession, than the act of clothing it in accurate language.

Monosyllabic answers, as "yes" and "no," should be rejected, except when they express all that can be said on the subject.

The value of such instruction has not been sufficiently appreciated, but it is hoped that these lessons will show how suited it is to promote mental training.

Comparison of Objects.

I. Directions.

1. Hold an object before the children and ask them to say something about it.

2. Place objects of the same kind in their hands, and let the pupils describe them; first in oral, second in written description.

3. Let the pupils compare objects, and tell their differences, as paper and leather, lead and iron, wood and stone, etc.

4. Let the pupils ascribe different qualities to one and the same object.

5. Let the pupils ascribe the same quality to various objects.

6. Let them apply many descriptive terms, applicable to various objects.

7. Let them point out the value of each word and state what it adds to the description.

II. Caution.

1. See that the children form correct ideas.
2. Correct all improper expressions.
3. Fix the new word in the mind by frequent reviews.
4. Assist the children in determining the suitability of words, correcting when necessary.
5. Encourage the children to reproduce lessons at home.

III. Aims.

1. To train the children to SEE.
2. To teach them to COMPARE.
3. To train them to DO.
4. To train them to TELL what they see and do.

Suggestions.

In the oral description let the children give the general properties, as the form and color; then the parts, properties and uses. In the written description require the work to be expressed neatly, giving attention to *spelling, writing, capital letters* and *punctuation.*

Combination of statements.

Let the teacher write the name of some familiar object on the board, and call upon the children to apply to it various qualities, writing them as they give them. It may be necessary to assist

the children in determining the suitability of the qualities, and also in spelling the more difficult words.

We may suppose a lesson in which the given name is "paper". It would present itself in such a form as this:—

The paper is white,
The paper is thin,
The paper is smooth,
The paper is pliable, etc.

The teacher should next lead the children to notice that the word "paper" need only be written once, and that the four sentences may be contracted into one. Then the teacher directed by the children writes:—

Paper is white, thin, smooth, and pliable.

The children then read this over, and are led to perceive the necessity of commas in those places where the words "paper is" are omitted, and also the use of the word "and" between the last two words of the sentence. Cover the board and require the children to reproduce the lesson.

When the same quality is attributed to many objects, it would present itself in such a form as this:—

Glass is brittle.
Chalk is brittle.
Coal is brittle.

Glass, chalk, and coal are brittle.

Iron is hard.
Flint is hard.
Glass is hard.

Iron, flint, and glass are hard.

The children should be led to notice the stops as before, and the change of the word "is" to "are."

Let the children observe that each sentence begins with a capital letter, and ends with a period. Examine each slate, and require the children to reproduce correct copies.

Be sure the children observe that words used in a series are separated by a comma.

Require the children to write many sentences, until this fact is fixed in the mind.

A Lesson on General Terms.

1. Ask the pupil to give a name that will apply to everything which they can perceive.
2. Ask the pupils—
   - *a.* To classify the different kind of matter.
   - *b.* To name the different classes.
   - *c.* To name the things that belong to the individual classes.
   - *d.* To observe and tell what *animals* and *vegetables* do.
   - *e.* To notice and tell what animals can *do* which the vegetable *cannot* do.
   - *f.* To observe the differences between the food of plants, and that of animals.
   - *g.* To write a statement using the words named.
   - *h.* To write a short composition, combining the statements.
3. Cautions.
   - *a.* "Never assist the child to a thing that it can do itself" with reasonable effort.
   - *b.* Remember that it is a difficult thing to form a thought and express it.
4. Results.
   - *a.* It will arouse the curiosity of the pupils.

b. It will enlist their undivided attention.

c. It will cause them to observe closely.

d. It will teach them the importance of classification.

Aim to train the mind.

The aim of these language lessons is to enlarge the circle of the pupil's knowledge respecting the objects brought under inquiry. The true aim is not only to impart knowledge rightly, and teach the elements of order, but to *train the powers* of the pupil. This is its dignity; this is its peculiar distinction. The main design is the growth and development of the whole being.

In order to teach language effectively we must begin the process, as nature meant we should, by furnishing the children with the elements out of which language is created, namely, a knowledge of material things.

Classification.

The teacher should place upon the table a number of articles that belong to the mineral, vegetable and animal kingdoms. He should ask the children to examine them carefully, and to tell a name that will apply to all of them. (It would be well to ask the children to bring different things from their homes.)

The children will give the following names: Articles, objects, substances; they may not be able to give the *term* that you wish, which is "matter." Write the words on the board, and tell the children that the *term* MATTER is the one that you wish.

Suggestions.

After the children become familiar with this term, you may ask them to put all the objects of the same kind into groups. They will learn to classify objects—an important lesson. The teacher

will then ask the children to name the different groups, viz: *mineral, vegetable,* and *animal.* (It may prove a surprise to some of the children, that they belong to the animal kingdom.)

Many lessons may be given, requiring the children to name things that belong to the different classes.

The teacher should require the children to bring in long lists of these names; an exercise of this nature will arouse their emulation.

Let the children observe that the animals move about, and plants are stationary; that animals and plants take food, breathe, grow, and die; that plants feed on minerals; and animals on vegetables and animals.

The teacher should be careful about assisting the children; it may be well to let a question remain unanswered for a day or so and see if the pupils cannot find out the answer by a few hours' study.

The Parts of Speech.

We introduce at this point a new class of objects, viz: Words in regard to some of their offices. We have examined the nature and functions of other things and have made use of the facts thus obtained as material for language development. Words, as will be seen, can be made to give us a large stock of working material to be used in advancing the Art of Language.

The Noun.

Teacher.—What is this?

Pupil.—A bell.

T. Spell the word bell.

(Pupil spells the word, and teacher writes it on the board. Obtain and dispose of, similarly, the following: book, pencil, cup, Henry, Aurora.)

T. What are these on the board?

P. They are words.

T. Pronounce this word: Henry.

P. Henry.

T. When you see or hear this word, of what do you think?

P. I think of a boy.

T. What boy?

P. My brother.

T. Why, when you hear this word, do you think of him?

P. Because that is his name.

T. What kind of a word is it?

P. A name word.

T. Of what is it the name?

P. It is the name of a person.

T. Of what is the word cup a name?

P. The name of a thing.

T. Find other words upon the board that are the names of things. (Pupils find pencil, book, bell.)

T. Of what do you think when you speak this word? (referring to the word Aurora.)

P. Of a town.

T. Why do you think of a place?

P. Because it is the name of a place.

T. Find another word and tell of what that is the name.

P. Wednesday is the name of a day.

T. What is each of these words?

P. A name.

T. Does any one know another word that means the same as name? (No hands raised.)

T. You may call these words nouns. (Pupils spell.)

T. What is a noun?

P. A name is a noun.

T. Give me twelve names. (Pupils give names and spell them.)

For to-morrow write:

1. Ten words that are the names of persons.
2. Ten words that are the names of things.
3. Ten words that are the names of places.

The Common Noun.

T. What is this? (touching one of the boys.)

P. A boy.

T. What are you? (addressing a boy.)

P. A boy. (Address several boys and obtain similar replies.)

T. By what name may all of you be called?

P. Boys.

T. A boy may open the door. (Several boys start to obey.)

T. Why do so many of you start when I speak?

P. We don't know which one you mean.

T. Why?

P. Because the name belongs to each of us.

T. What name belongs to each of you?

P. Boy.

T. What have you learned to call a word that is a name?

P. A noun.

T. Why is it a noun?

P. Because it is a name.

T. Because the name applies to each of you what kind of a name is it?

P. A common name.

T. What kind of a noun is it?

P. A common noun.

T. What is a common noun?

P. A common name is a common noun.

T. But when is a name common?

P. When it applies to each one of the same kind of objects.

T. What, then, is a common noun?

P. A name that applies to each one of the same kind of objects is a common noun.

T. Peter, bring me five things that have a common name. What are these called?

P. Books.

T. What name may be given to each boy and girl in this school?

P. Pupil.

T. What common name may be given to Miss ——, Miss ——, and Miss ——?

P. Teacher. Lady. Woman.

T. What kind of nouns are pencil, pupil, teacher, lady, boy, girl?

P. Common nouns.

For to-morrow write a list of:

1. Twenty common nouns that are names of articles of furniture.

2. Twenty common nouns that are names of tools.

3. Twenty common nouns that are names of vegetables.

4. Twenty common nouns that are names of minerals.

The Proper Noun.

T. Jane, write your name on the board. (Pupil does so.) What have you written?

P. I have written my name.

T. Why do you say 'my name?'

P. Because it belongs to me.

T. What other person in your family has the same name?

P. No other person has the same name.

T. Class: why do you think a different name from any other in her family was given?

P. To tell her from the others.

T. To how many of her family does the name Jane belong?

P. It belongs to one.

T. What is this name?

P. This name is a noun.

T. What is a noun?

P. A name is a noun.

T. Because this name belongs to one only, what kind of a noun is it?

P. It is a particular noun.

T. You may call it a proper noun. What is a proper noun?

P. A particular name is a proper noun.

T. To how many does a proper noun belong?

P. It belongs to one.

T. Give a name that is common to those three things. (Pointing to a pile of books.)

P. Book.

T. Give the proper name.

P. Monroe's First Reader, Webster's Dictionary, Thomson's Arithmetic.

T. Open your readers and find five proper nouns. (Pupils do so.) With what kind of letter is each begun?

P. With a capital letter.

T. Find a proper noun that does not begin with a capital letter. (Pupils fail to find one.)

1. Write ten proper nouns that are the names of men.

2. Write ten proper nouns that are the names of women.

3. Write ten proper nouns that are the names of places.

4. Write ten proper nouns that are the names of divisions of time.

The Possessive Form of Nouns.

T. What is this?

P. That is a hat.

T. Whose hat is it?

P. William's.

T. Make a statement of what you say.

P. That is William's hat. (Some of the pupils write this statement on the board; the others write it on their slates.)

T. What is the word William's?

P. A noun.

T. What kind of a noun?

P. A proper noun.

T. For what is it used in the sentence?

P. To tell whose hat. To tell who owns the hat.

T. You may say possesses, instead of owns.

P. To tell who possesses the hat.

T. Speak the word as we commonly hear it. (Pupils do so.)

T. Speak the word as it is here used. (Pupils do so.)

[This should be repeated, with this and other nouns, until the pupils perceive clearly, and can state the difference between the sounds of the two forms.]

T. Open your books and find names used as we have used the name William in this sentence. (Pupils find many names and pronounce them.)

T. What is the difference in the sounds of these words, and the same words as they are commonly called? (Pupils state.)

T. What do you find in the printed word to represent that difference?

P. An apostrophe and a letter s.

T. As you look at the words William and William's, what difference can you see?

P. One has more letters than the other.—A difference in the size of them.—A difference in the form of them.

T. Because William is the way we commonly use the word, what form may we call it?

P. The common form.

T. What shall we call the other form? (Pupils do not know.)

T. You may call this the possessive form of the noun. (Pupils spell the word.)

1. Write ten common nouns in the possessive case.

2. Write ten proper nouns in the possessive case.

In like manner develop all the Parts of Speech, as the adjective, pronoun, verb, etc., and *make immediate ap-*

plication of the terms developed. This will lead the pupils pleasantly into the Science of Language so that it will become a rational study.

The Comma—Its Use in a Succession of Particulars.

T. I want you to tell by writing on your slates, five things that this knife has.

(The pupils at the age of those for whom these lessons are intended will, almost without exception, write five sentences:

This knife has a handle.
This knife has a blade.
This knife has a back.
This knife has a spring.
This knife has rivets.)

T. How many sentences have you written?

P. Five.

T. See how many times you have written the words *this, knife, has,* and *a.* Can you not shorten the work by putting all you have to say in one sentence?

(Pupils write:

The knife has a handle and blade and back and spring, and rivets.)

T. Listen closely. I am going to ask you another question. What is the use of the words handle, blade, back, spring, and rivets? What did you discover?

P. You said *and* only before the last word.

T. Now I think you can give the sentence that you have been writing, and have it just right. Who will try? (Hands are raised.)

P. The knife has a handle, blade, back, spring, and rivets.

T. That is right. All repeat. (Pupils repeat, and write on their slates.)

T. There is a question unanswered. Who can give it? (Hands are raised.)

P. What is the use of the words handle, blade, back, spring, and rivets?

T. Right. Who will answer it?

P. To show what the knife has.

T. Because they are all used for that purpose what may we say about them?

P. They are used in the same way. They are used alike.

T. Now turn to your books, and find words that are used alike, and see how they are written; then we shall know whether our work is right or not. What do you discover?

P. There is a comma after each of the words except the last. (Pupils correct the work on their slates.)

T. You say these words are used in the same way. How many words in this sentence are used in the same way?

P. Five. Many. Several.

T. Which now makes the best answer to my question—five, many, or several?

P. Several.

T. I think so. We have learned something about the use of the comma, and I want you to tell me what it is.

P. When several words are used in the same way, a comma is placed after each except the last.

(The teacher ought now to suggest many kinds of sentences containing successions of particulars, and

have them all written and carefully criticised. Drill on this lesson should continue several days.)

Themes for Composition.

I. Directions.

1. The teacher will select a familiar theme and ask suggestive questions.

2. Write the correct answers on the board.

Water.

a. Where does the water come from?
b. How does it reach the clouds?
c. In what form is it carried?
d. What causes it to fall to the earth?
e. Is rain useful?
f. In what way is it useful?

A Journey.

a. The starting point.
b. Time of departure.
c. Mode of travel.
d. Destination.
e. Appearance of the country.
f. Kind of trees, flowers, etc.
g. Return.

Caution.—Enlarge upon the idea of *criticising* and *correcting* by the pupils.

Miscellaneous Exercises.

I. Directions.

1. Tell or read a short story, and require the pupils to reproduce it.

2. Write a letter to a wealthy merchant in New York city, requesting a situation as salesman in his store.

3. Write an advertisement describing a lost child.

4. Write a composition on each of the following proverbs, explaining its meaning, and showing how far it is true:—

a. "Fortune favors the brave."

b. "All is well that ends well."

c. "Strike while the iron is hot."

d. "A little pot is soon hot."

e. "Out of sight, out of mind."

5. Take some poem of several stanzas, and write your opinion of it.

6. Write a letter to the *New York Times*, giving an account of a railway accident.

7. Write an allegory comparing tobacco to a thief.

Reproduction of stories.

Perhaps as easy a method as any to induce the younger class of pupils to make their first efforts at composition is to read or relate to them a short but interesting story, and desire them to write an outline of it, as full and extended as they can within a given time. In such an exercise the thoughts are already furnished, and the only labor of the pupil is to place them in their proper connection and clothe them with good language. In an exercise of this kind the pupil takes one of his first lessons in generalization; he learns to separate and classify facts, selecting the most important, and rejecting those of little consequence. A similar course should be observed by students in history, writing each day a fair outline of the subject matter contained in the pages of their lesson.

Suggestive Abstracts.

Abraham Lincoln.

I. His Early Life.
   - *a.* Birth.
   - *b.* Childhood.
   - *c.* Youth.
   - *d.* Manhood.
   - *e.* Difficulties.

II. His After Life.
   - *a.* Occupation.
   - *b.* Election to the Presidency.
   - *c.* Administration.
   - *d.* Assassination.
   - *e.* Burial.

III. His Character.
   - *a.* Simplicity.
   - *b.* Uprightness.

The Influence of Kind Words.

I. A Kind Word costs nothing, yet its influence may last through a life time.
   - *a.* Kind words at home.
   - *b.* in school.
   - *c.* to friends.
   - *d.* to our inferiors.
   - *e.* to strangers.
   - *f.* to animals.

II. The Influence upon the Speaker.
   - *a.* They gain him friends.
   - *b.* They gain him a reputation for amiability.
   - *c.* They keep alive his kindly feelings.
   - *d.* They produce images of beauty in his mind.
   - *e.* They win for him love and gratitude.

III. The Influence upon the Hearer.
   - *a.* They shame him out of anger.
   - *b.* They comfort him in grief.
   - *c.* They soothe him in pain.

IV. The Influence upon Children.
V. The Influence upon the Poor.
VI. The Influence upon Other People.
  a. The morose.
  b. The misanthropic.
  c. The wicked.
  d. The weak.
VII. Uses of Kind Words.
VIII. Value of Kind Words.
IX. Compared with:
  a. Angry words.
  b. Cold words.
  c. Hot words.
  d. Bitter words.
  e. Vain words, idle words, empty words, profane words, &c.

X. Conclude by any instances you may be able to recall of the influence of kind words, in your experience ; as, an anecdote or incident.

Politeness.

I. Definition.

Ease and grace of manner in the expression of a desire to please others, and a careful attention to their wants and wishes.

II. Politeness exacts of us:
  a. Unselfishness, in our care for the comfort or pleasure of others.
  b. Elegance of manner, in our desire to please by our deportment.
  c. Deference toward our superiors, either in age, station or importance.
  d. Kindness to our inferiors, either children or servants.
III. Value of Politeness.
  a. Proceeds from the impulse of a kindly nature, proving a good heart.
  b. Will admit of a great degree of polish, proving a finished education.
  c. Gives respect where it is due, and thus wins consideration in return.

d. Gives kindness to inferiors, and thus wins respect and gratitude from them.

e. Promotes good feeling among friends.

f. Assuages discord, even among enemies.

IV. Natural Politeness.

a. Proceeds from the heart without instruction.

b. Often to be found among the rough and uncultivated, even if more clumsily expressed than among the educated and refined.

V. Acquired Politeness.

a. The observance of points of etiquette and good breeding by the well educated.

b. Mere polish of manner, often covering a selfish, hard nature.

VI. Politeness in different Countries.

a. The etiquette of one nation often considered rude or insulting in another.

b. Every race, even the most savage, has some form of outward politeness.

c. Name any peculiar form of etiquette you may have seen or read of.

VII. Politeness in Children and Young People is one of the most winning and graceful of attributes. It is a mistaken idea to fancy rudeness a token of manliness or bravery. Bayard, one of the bravest of cavaliers, was one of the most finished gentlemen mentioned in history.

VIII. Perfect Politeness may be defined as the union of natural politeness of the heart, and the acquired politeness of Etiquette and Custom. Holmes describes the combination:

"So gentle blending courtesy and art,
That wisdom's lips seemed borrowing friendship's heart."

Wisdom and Wealth.

I. Wealth may be defined as:

a. Great possessions.

b. A large amount of worldly good.

II. Mere Money may, it is true, be considered as Wealth, but are there not more precious possessions, worldly goods far more valuable?

III. Poverty, it is true, will impede our search for Wisdom, as we shall lack:

a. Time for study, if obliged to earn a livelihood.

b. The means of buying books.

c. The advantage of good instruction.

IV. But Wisdom once gained is preferable to Money, for these reasons:

a. Once gained it cannot be taken from us, while money may be lost by a thousand reverses.

b. It can never be given to us, but we must taste the sweets of exertion and enjoy the reflection that we have earned our treasures.

c. We can never acquire wisdom by theft, or inherit it when dishonestly acquired, as we might mere money.

d. Wisdom is independence. The man who has acquired knowledge can in a great measure control his own future. His opportunities for earning money are largely increased; his pleasures lie in his love of reading and study, and are therefore always open to him; he is respected by his fellow men; he never feels the weariness of the vacant mind; if reverses come to him his wisdom enables him to meet them bravely and often to conquer them.

V. Conclusion.

In starting, therefore, in life, the possession of wisdom is far preferable to the possession of mere money, if ignorance is the price of the latter. A fool can never win honor or even respect though he were to possess unbounded riches; all the pleasures that can be purchased are nothing compared to the delights of a cultivated mind and refined intellect.

Seek, therefore, to gain wisdom, that you may possess the true wealth that can never be taken away from you, that you will never lose, that you may impart freely to others, and in so imparting increase your own store rather than diminish it.

Whose life most brightly illuminates the pages of the past—the wise man's or the rich man's?

In the history of the future, aim rather to figure as a Socrates than as a Crœsus.

Compare the life of the wisest man you can remember, and that of the richest man.

Knowledge is Power; Wisdom is Wealth.

Absent Friends.

I. Introduction.

In this world of change, every one is called upon to feel the pain of separation from friends endeared by association or acts of kindness. The dearest friends are severed by circumstances, often having the ocean between them.

II. Treatise.

a. Affection is kept warm by kind remembrance.

b. Tender recollections will dwell upon words spoken by the absent, and the memory of their acts will be cherished with pleasure.

c. Their return to us, or our joining them, will be anticipated with delight.

d. The circumstances under which separation took place will seriously affect our thoughts.

1. Parting in anger. Time heals rage.
2. Parting in affection. Time should increase love.
3. Parting in sorrow. Anticipated joy of meeting again.

e. Separation by death.

1. Memory of friends then becomes holy and pleasant.
2. Faults are forgotten when the grave closes over them.
3. But few homes are without their unforgotten dead, whose memory is associated with some spot or hour.

f. Compare the pain of parting and the pleasure of meeting.

1. After a journey.
2. After years of separation.
3. Hope of reunion in another world.

"The joy of meeting pay the pangs of absence;
Else who couid bear it?" [ROWE.

General Directions.

1. *Make a plan or outline of the essay before writing any part of it.*
2. *Note down in writing any useful thought that may occur to you while you are collecting material for your composition.*

Exercise in Synonyms.

1. *Custom—habit.*—*Custom* respects the action; *habit* the actor. By *custom* we mean the frequent repetition of the same act; by *habit* the effect which that repetition produces on the mind order body.
2. *Pride—vanity.*—*Pride* makes us esteem ourselves; *vanity* makes us desire the esteem of others.
3. *Enough—sufficient.*—*Enough* relates to the quantity which one wishes to have of anything; *sufficient*, is all that is needed.
4. *Remark—observe.*—We *remark* in the way of attention, in order to remember; we *observe* in the way of examination, in order to judge.
5. *Qualified—competent.*—*Qualified*, having the training, skill, knowledge; *competent*, having the power.
6. *Entire—complete—perfect.*—*Entire*, having all its parts; *complete*, all its appendages; *perfect*, all essentials, without flaw.
7. *Fortitude—courage.*—*Fortitude*, power to endure pain; *courage*, power to face danger.
8. *Vocation—avocation.*—*Vocation* is the calling or profession; *avocation*, the temporary employment.
9. *Excuse—pardon—forgive.*—We *excuse* slight offences; we *pardon* manifest faults; we *forgive* sin.
10. *Grand—sublime — Lovely — pretty — beautiful.* (We omit definitions. Point out the distinctions.)
11. *Amuse—divert—entertain.*—*Amuse*, to pass time lightly and pleasantly away; *divert*, to turn one's thoughts to something of a livelier interest; *entertain*, to put the mind into agreeable contact with others, as through conversation, or a book.
12. *Arduous—hard—difficult.*—*Difficult*, anything that requires more or less exertion to perform it; *hard*, that which re-

quires a decidedly greater effort to perform it; *arduous*, that which requires strenuous and preserving effort to perform it.

13. *Gospel.*—Derived from the Saxon adjective Gôd, meaning *good*, and *spell*, a narrative—the good narrative, or glad tidings.

This can be made a very pleasant and instructive exercise; the teacher should explain and illustrate the synonyms, and require the pupils to form sentences, using the words correctly. It will teach precision in the use of words; great care should be taken to distinguish between the general meanings and particular applications.

Instruct the pupils to use simple, plain terms; compare the quotations below and study the difference in the purpose and form of expression.

"Life is real, life is earnest; and the grave is not its goal.
Dust thou art, to dust returnest, was not spoken of the soul."
Longfellow.

"Life is the definite combination of definite composite heterogeneous changes, both simultaneous and successive, in correspondence with external co-existence and sequences."—*Herbert Spencer.*

Common Mistakes.

1. "We have no corporeal punishment here," said a teacher. *Corporeal* means having a body and is opposed to spiritual. Say, *corporal* punishment.

2. "*Set* down and rest yourself;" say, *sit down.*

3. "*Who* do you mean?" say *whom.*

4. "He *has got* my slate;" omit *got.*

5. "*Who done* it;" say *did it.*

6. "*I intended to have written* a letter yesterday;" say, *to write.*

7. "The girl speaks *distinct;*" say, *distinctly.*

8. "He lives *at* New York;" say, *in* New York.

9. "He made a great *splurge;*" say, he made a blustering effort. The first savors of slang.

10. "My brother *lays* ill of a fever;" should be my brother *lies* ill of a fever.

Vulgarisms.

The following words and expressions should be strictly avoided in conversation and in writing. Only a few of the many hundreds in use are given, simply as suggestions.

1. "Acknowledge the corn,"—instead of to admit.
2. "Ain't,"—instead of am not or isn't.
3. "Awful,"—instead of ugly or difficult.
4. "Beat out,"—instead of tired.
5. "Dreadful,"—instead of very.
6. "Hopping mad,"—instead of very angry.
7. "Strapped,"—wanting or out of money.
8. "Wrathy,"—instead of angry.
9. "Female,"—correctly used with reference to sex alone. To speak of a woman simply as a female is ridiculous,

The teacher should keep a record of all the mistakes made by the pupils, and encourage them to do the same. Once a week these should be written on the board, and *corrected* by the pupils, the teacher assisting when necessary.

Record of mistakes.

The pupils should be required to copy in a note-book the exercises in a form similar to the above.

Let the pupils learn the *correct* way of speaking by a *correct use* of the term. Arbitrary rules are of little use in the beginning.

Final Suggestions.

Outlines of compositions.

The teacher, at first, will assist the pupils to classify subjects, draw outlines, and form correct tabulations. Questions may be used for a brief time, to teach classification; but should be cast aside as soon as possible. The teacher should always require pupils to hand in an outline of the subject. This plan will cultivate individuality and originality and give the pupils a training, intellectually, that will prove of great service in after life.

Thought the one essential.

The teacher must not attempt to do any more than she can do well. It would not do, for instance, to select an object in which the properties to be illustrated were not well developed, nor an object with which the pupils were not familiar.

Every lesson should be given in such a way as to draw out the perceptive powers of the pupil by leading him to *reflect* on what he sees, or to analyze the object before him. Powers are to be strengthened only by teaching the pupil to THINK upon what he sees.

Important suggestions.

1. Prepare yourself beforehand on the subject, fixing in your mind exactly what subjects you will bring up, just what definitions and illustrations you will give or draw out of the class.

2. Have the work marked or written down in the form of a synopsis.

3. Use the board in all exercises; write on it technical words, classification of the knowledge brought out in the recitation, and whenever possible, illustrative drawings.

4. Whenever the subject is of such a nature as to allow it, the teacher should bring in real objects illustrative of it and encourage the children to do the same.

5. Do not burden the pupil with too many new techcal phrases at a time, nor fall into the opposite error of using only the loose common vocabulary of ordinary life, which lacks scientific precision.

6. Discuss the topics *thoroughly*.

7. Do not overburden the pupil's memory.

8. Do not distract his power of attention.

9. Never take up a topic that you are unable to explain and illustrate so clearly as to make the pupil understand it.

10. Avoid all phases of the subject that will tend to confuse rather than enlighten.

11. Draw out in a conversational way the experience and information which your scholars already possess on the subject.

12. Never omit to show by a synopsis on the board what has been discussed in the lesson, its classification and relation.

13. Require short weekly compositions of the pupils, expressing in their own language their ideas on the subject.

Topics for brief talks.

By spending ten or fifteen minutes each day, in a familiar, conversational lecture, upon some topic or object, selected from the following list, not only will the scholars be interested and learn many new truths in a way to remember them, but the teacher himself will derive great advantage from his preparation for such an exercise. Whenever it can be

done, the means of illustration should be at hand, to demonstrate to the eye, and thus fasten upon the mind the facts and reasoning of the lecturer. The curiosity of the pupils should be excited, and questions and remarks should be encouraged, for by these means they will be led to closer habits of thought and observation.

1. Glass.
2. India-rubber.
3. Leather.
4. Sponge.
5. Wool.
6. Wax.
7. Whalebone.
8. Bread.
9. Ivory.
10. Chalk.
11. A pin.
12. A pencil.
13. A brick.
14. An acorn.
15. A cork.
16. A stone.
17. Cinnamon.
18. Nutmeg.
19. Ginger.
20. Gloves.
21. Water.
22. Oil.
23. Vinegar.
24. Butter.
25. Cheese.
26. Coffee.
27. Tea.
28. Rice.
29. Paper.
30. Cotton.
31. Flax.
32. Silk.
33. Gold.
34. Silver.
35. Mercury.
36. Lead.
37. Copper.
38. Iron.
39. Tin.
40. Lime.
41. Coal.
42. Granite.
43. Salt.
44. Slate.
45. Feathers.
46. Coral.
47. Gutta-percha.
48. A piece of fur.
49. Rotundity of the earth.
50. Spheroidal form of the earth.
51. Origin and use of salt in the sea.
52. Commerce.
53. The seasons.
54. Phases of the moon.
55. Tides.
56. Eclipses.
57. Electricity.
58. Mariner's compass.
59. Circulation of the blood.

Questions for Debate.

Is the farmer the most useful member of society?
Does wealth tend to exalt the human character?
Has civilization increased human happiness?
Are great men the greatest benefactors of the world?
Is intemperance a greater evil than war?

Do inventions improve the condition of the laboring classes?

Is the expectation of reward a greater incentive to exertion than the fear of punishment?

Do savage nations possess the right to the soil?

Is the mind of woman inferior to that of man?

Is the pen mightier than the sword?

Has increased wealth a favorable influence on the morals of the people?

Did the Crusaders benefit Europe?

Was the invention of gunpowder an evil?

Is the existence of political parties an evil?

Is the pulpit a better field for eloquence than the bar?

Subjects for Compositions.

Spring.
Flowers.
A Thunder-storm.
What becomes of the Rain.
Blessings of Hope.
Flowers of Memory.
The Prairies.
Unity in Diversity.
Snow.
Mountains.
Forests.
The Beauties of Nature.
Our Country.
The Study of History.
Peace.
War.
The Ruins of Time.
The Fickleness of Fortune.
A Dream.
A Ray of Light.
A Drop of Water.
Immutability of Change.
Town and Country.
Never Give Up.
Benevolence.
History of a Looking Glass.
Power of Mind.
The Bible.
The Sunny Side.
The Aurora Borealis.
The Earth.
The Shady Side.
Human Genius.
Aim High.
Past and Present.
Book of Nature.
Hope On, Hope Ever.
Nature's Mysteries.
The Contrast.
The Starry Heavens.

By-gone Hours.
Immortality of the Soul.
Influence of the Great and Good.
Poetry of Nature.
Music of Nature.
Memory of our Fathers.
Matter and Mind.
The Stuff that Dreams are made of.
The Seasons.
Heat.
Light.
The Spirit of Discovery.
The Art of Printing.
Newspapers.
Novelty.
The Sun.
The Rainbow.
The Moon.
The Stars.
The Study of Geography.
The Pleasures of Travelling.
The Application of Steam.
Rivers.
To-morrow.
The Ocean.
Manufactures.
The Influence of Women.
Hero-worship.
Magic of Kindness.
Cost of Civility.
Things that Cost Nothing.
The Orphan.
The Rolling Stone.
Teachers.
Loved Faces.
We Bloom To-Day, To-morrow Die!
The Wreath of Fame.
Reflections of a Looking-glass.
Early Companionship.
Music of the Sea-shell.
Letter from the Town.
Letter from the Country.
Tricks of Trade.
Keepsakes.
My Room-mate.
The True Friend.
What Shall we Read?
School Associations.
Paddle Your Own Canoe.
Star of Home.
One by One.
I've Wandered in Dreams.
Philosophy of a Tear.
Music of the Spheres.
Oppression the Nursery of Reform.
The Book.
Peaceful Conquests.
The True Hero.
Sources of a Nation's Wealth.
Commerce.
Early Rising.
Cheerfulness.
The Uses of Biography.
The Backwoodsman.
Punctuality.
Curiosity.
Foppery.
Gardening.
Modern Delusions.
Young America.

The Multiplication of Books.
The Philosopher's Stone.
Nature and Art.
The Freedom of the Press.
The Present.
The Past.
The Future.
Silent Influence.
The Monuments of Antiquity.
Rome was not Built in a Day.
The First Stroke is Half the Battle.
Make Hay while the Sun Shines.
Necessity is the Mother of Invention.
A Picture of Fancy.
Leaflets of Memory.
A Soft Answer Turneth away Wrath.
Avoid Extremes.

Reference Books.

Verbal Pitfalls. A manual of 1,500 words commonly misused, including all those the use of which in any sense has been questioned by Dean Alvord, G. W. Moon, Fitzedward Hall, Archbishop Trench, Wm. C. Hodgson, W. L. Blackley, G. F. Graham, Richard Grant White, M. Schele de Vere, Wm. Matthews, "Alfred Ayres," and many others. Arranged alphabetically, with 3,000 references and quotations, and the rulings of the dictionaries. By C. W. Bardeen. 16mo, pp. 223. 75 cts.

Outlines of Sentence Making. A brief course in composition. By C. W. Bardeen. 12mo, pp. 187. 60 cts.

A System of Rhetoric. By C. W. Bardeen. 12mo, pp. 813. $1.75.

A Shorter Course in Rhetoric By C. W. Bardeen. 12mo, pp. 311. $1.00.

GRAMMAR.

A mature study.

Grammar deals largely with abstract relations, and for this reason some maturity in the pupil is indispensable. A great deal of time is wasted upon this subject; if presented wisely and at the proper time it will prove delightful and interesting.

A common fault in teaching grammar is to require pupils to commit to memory definitions and rules that have for him no meaning. Grammar should at first be taught orally; all the terms should be *developed, explained* and *illustrated* by copious examples. When these terms are fully understood, *then* and not until then, should the pupils be required to commit the rules to memory. As fast as the terms are learned, the pupils should be required, in all cases, to embody them in sentences of their own construction.

General Plan of Study.

I. Develop the Sentence.

II. Develop the parts of a Sentence.
   1. Subject.
   2. Predicate.

III. Develop the kinds of Sentences (as to use.)
   1. Declarative.
   2. Interrogative.
   3. Imperative.
   4. Exclamatory.

IV. Develop the forms of Sentences (as to propositions.)
   1. Simple.
   2. Complex.
   3. Compound.

V. Teach the correct use of Capital Letters.

VI. Teach the correct use of Punctuation Marks.

The Sentence.

Ask the pupils to think of some object. Ask them how you may know the name of the object. They perceive that before their thoughts can be known to others they must express them. In order to communicate your thoughts, what must you use? They will discover that to express a thought, they must use words. Now ask each pupil to express a thought, as "The bird sings;" "The tree grows;" "The boy laughs;" "The clock ticks;" etc. They are now told that a thought expressed in words is called a sentence.

Suggestive.

Require the pupils to form several sentences orally, using the following analysis.

I first think about something; I use words to express my thought. The words used are: "The bird sings." These words express a thought, and form a sentence. A thought expressed in words is called a Sentence.

The pupils have already discovered that there must be an object or subject of thought in the mind. And when they tell their thoughts they speak of some object or subject and tell something about it. They are led to see this in every sentence. By repeated trials they soon find that they can form no sentence without speaking of something and telling something about it.

The subject.

Ask the pupils to express a sentence and analyze it. "The clock ticks."

"The clock ticks," is a thought expressed in words; it is a sentence. The word "clock" represents the object spoken of; it is the subject. The word "ticks" represents what is said of the clock; it is the predicate.

That of which something is said, is called the subject.

That which is said of the subject is called the predicate.

By a similar process of development the pupils are led to observe the object of a sentence.

The object.

The teacher should write at the board all the sentences given.

It would be well for the teacher to ask questions of the pupils and endeavor to get in reply the different kinds of sentences, as asking, telling, etc. The teacher should write these sentences as given by the pupils on the board, and let the pupils discover the differences. Let them see that every telling or declarative sentence, ends with a *period.* Every asking or interrogative sentence ends with the *mark of interrogation,* every exclaiming sentence with an *exclamation point,* and every commanding or imperative sentence with a *period.*

Kinds of sentences.

REVIEW.—To be committed to memory.

1. *A thought expressed in words is a Sentence.*

2. *That of which something is said, is called the Subject.*

3. *That which tells what is said of the subject, is called the Predicate.*

4. *That which receives the act expressed by the predicate, is called the Object.*

Every sentence should begin with a Capital Letter.
Every sentence should end with a Punctuation Mark.

The Telling, or Declarative Sentence.

Teacher. Make a sentence about this cap.

Pupil. The cap is red.

(The teacher writes on the board, while the pupils spell the words.)

T. What did you do when you made this sentence?

P. We told you something said about the cap.

T. Because this sentence tells or says something, what kind of a sentence may we call it?

P. We may call it a telling sentence.

T. What then is a telling sentence?

P. A sentence that tells or declares something.

T. What mark must be placed after the last word of every telling sentence?

P. A period.

T. What have we learned in our lesson of to-day?

P. A sentence that tells something is called a Telling, or Declarative Sentence. We must place a Period after the last word of every telling, or declarative sentence.

Fix facts by writing them.

Require the pupils to write on their slates the definition of a sentence, subject, predicate, object, a telling sentence and the rule for punctuation. Let the pupils *spell the words,* and examine the slates carefully.

The Asking, or Interrogative Sentence.

T. I will ask you a question, and will write it on the board. "Do you love study?" What did I do?

P. You asked a question.

T. Because it asks a question, what kind of a sentence is it?

P. An asking sentence.

T. What is an asking sentence?

P. A sentence that asks a question is an asking sentence.

Let the pupils repeat, spell words and write the definition on their slates; ask them to examine their reading books, and bring in asking sentences.

Drill upon the above until every member knows how to use the period and the interrogation mark.

The Commanding, or Imperative Sentence.

T. Tell me to do something. Can I use another word instead of *tell?*

P. You can use *command.*

T. Give me a command.

P. "Hand me a cup."

T. What does this sentence do?

P. It makes a command.

T. What kind of a sentence may we call it?

P. A commanding sentence.

T. What is a commanding sentence?

P. A sentence that expresses a command is a commanding sentence.

T. What mark have I placed after the last word of the commanding sentence?

P. A period.

T. How do I begin a commanding sentence?

P. With a capital letter.

T. How do I close it?

P. With a period.

T. What is a sentence?
What is a telling sentence?
What is an asking sentence?
What is a commanding sentence?
How do I close every asking sentence?
How do I close every telling sentence?
Write five telling, five asking, and five commanding sentences.
Write the definition of the telling, asking and commanding sentences.

The Exclaming, or Exclamatory Sentence.

T. If you should see a house on fire, what would you say?

P. "O, see the fire!" "A house on fire!"

T. What would you call these expressions?

P. Exclamations.

T. What do these sentences do?

P. They make exclamations.

T. What kind of sentences are they?

P. Exclaiming sentences.

T. What is an exclaiming sentence?

P. A sentence that makes an exclamation, is an exclaiming sentence.

T. What mark do you find after the last word?

P. An exclamation point.

T. You may all write an exclaiming sentence.

Require the pupils to repeat all the definitions,—see that they understand the idea before committing them to memory. Let them construct and write many sentences, holding them rigidly to the correct use of capital letters and punctua-

Incidental drill in composition.

tion marks, and require neatness in every exercise. Work on each sentence until it is right. If necessary to success, be willing to work three days on one short lesson. "Not how much, but how well" should be the motto.

Review, to be committed to Memory.

1. *A thought expressed in words is a Sentence.*

2. *A sentence that tells or declares something is a Telling or Declaring Sentence.*

3. *After the last word of every Telling or Declaring Sentence we must place a Period.*

4. *A sentence that asks a question is an Asking or Interrogative Sentence.*

5. *After the last word of every Asking or Interrogative Sentence we must place an Interrogation Mark.*

6. *A sentence that expresses a command is called a Commanding or an Imperative Sentence.*

7. *After the last word of every Commanding or Imperative Sentence, we must place a Period.*

8. *A sentence that makes an exclamation is an Exclaiming or Exclamatory Sentence.*

9. *After the last word of every Exclaiming or Exclamatory Sentence, we must use the Exclamation Point.*

NOTE.—Simple as this may seem, it requires on the part of the teacher a great deal of patience to teach it thoroughly. This is a very important subject, and the pupils should be able to make practical application of the above points. "Make haste slowly."

Use of capital letters.

The attention of the pupils should be called to the capital letters at the beginning of all these different sentences. This is very important, and one of the most practical rules in grammar. Re-

quire written exercises to be brought into the class, subject to the criticism of the class and teacher.

Analysis.

After the pupils have been made thoroughly familiar with the sentence, subject, predicate, and object, with the kinds of sentences, capital letters and punctuation marks, they should be required to form sentences and analyze them, and write the definition of all the terms that have been taught. A perfect understanding of the thought to be expressed is essential to correct analysis; hence, the first step should be to prepare the pupils to analyze sentences they themselves have constructed. When they shall become quite expert at this, they may analyze the thoughts of others.

Let it be the aim of the teacher to present the subject so pleasantly and attractively that pupils will not say, as is often the case, "What a dry, distasteful, uninteresting subject."

Sentences Classified According to their Propositions.

T. Jennie what have you in your hand?

P. I have a book. (Teacher writes the answer on the board.)

T. What is the subject?

P. The subject is "I."

T. What is the predicate?

P. "Have a book."

T. When the subject and predicate express a complete thought it is called a Single Proposition.

You may repeat what I have just said.

P. Suppose it does not express a complete thought?

T. It may, or it may not, express a complete thought, and still be a proposition; for a proposition is the union

of a subject and a predicate. In the example, "I have a book," the thought is complete. In the example, "If I go," it is incomplete; both are propositions.

Fred, do you like the boys in school?

P. I like the boys who study.

T. Read the first proposition.

P. "I like the boys."

T. That is right: why is that a proposition?

P. Because it is the union of a subject and a predicate.

T. What kind of a proposition is it?

P. A single proposition, because it expresses complete sense.

T. Do the words "who study" make sense?

P. They do not, if used alone, but with the other proposition they assist to complete the sense.

T. That is right. Are the words "who study" a proposition?

P. They are; because they form the union of a subject and predicate. A proposition by itself may or may not form a sentence.

T. What is such a proposition as "who study," called? Do you know?

P. It is called the second proposition.

T. You might call it that, but it would not be definite: we will call it a clause, as it performs different offices.

In the sentence "I like the boys who study," which do you think is the principal proposition?

P. "I like the boys."

T. Why do you think that is the principal?

P. Because it is that which expresses the leading thought.

T. That is right. Let us all repeat that.

That which expresses the leading thought is the Leading Proposition.

P. And what of the words "who study"?

T. Do they make complete sense?

P. They do not; they seem to have something to do with the principal proposition.

T. That is right, John. They tell the kind of boys. We may call them the "study boys." It is not the principal proposition. What shall we call it? In a regiment we have principal officers and—(Fred answers) "subordinate." That is right, Fred. As the words "who study" modify the principal proposition we will call them a subordinate clause. Now, what is a subordinate clause?

P. The clause that modifies the principal proposition is a Subordinate Clause.

T. You may all repeat it slowly; so you see that subordinate parts or elements are those that belong to other elements. They are called subordinate because they are under in order, or importance.

Now, let us find another kind of proposition. I see two boys in the park. Tell their names.

P. Charles and Frank.

T. What are they doing?

P. Charles runs and Frank walks.

(Teacher writes answer at the board.)

T. Read the first proposition.

P. Charles runs.

T. Read the second proposition.

P. Frank walks.

T. Does the last proposition belong to any word in the first?

P. It does not.

T. Does the first proposition belong to any word in the second?

P. It does not.

T. Does the first proposition express a complete thought in itself?

P. It does.

T. Does the second proposition express a complete thought in itself?

P. It does.

T. Since each proposition expresses a thought by itself, meaning that it is not dependent, what shall we call it? I will tell you. We call the propositions Co-ordinate. It means that the propositions are of equal rank. We will now repeat:

Propositions of equal rank or order are called Co-ordinate.

T. A sentence composed of one proposition is called a Simple Sentence; a sentence composed of a principal and subordinate propositions, is called a Complex Sentence; a sentence composed of two or more co-ordinate propositions is called a Compound Sentence.

The teacher should not leave this division until the pupils can bring into the recitation written examples of all the different sentences. He should also require the pupils to analyze the sentences.

Review.

1. *A proposition is the union of a subject and a predcate.*

2. *A proposition by itself may or may not form a sentence.*

3. *A single proposition is a sentence when it expresses a complete thought.*

4. *A proposition may form an element of a sentence; it is then called a clause.*

5. *The principal proposition of a sentence is that which expresses the leading thought.*

6. *A subordinate proposition is one that modifies the principal.*

7. *Co-ordinate propositions are those of equal rank in the same sentence.*

8. *A simple sentence is one composed of but one proposition.*

9. *A complex sentence is one composed of a principal and one or more subordinate propositions.*

10. *A compound sentence is one composed of two or more co-ordinate propositions.*

CLASSIFICATION OF SENTENCES AND THEIR ELEMENTS.

Sentences, Clauses, Phrases, Subjects, Predicates, Objects, Attributes, Modifiers,	are classified in respect to form and use, as		Simple, Compound, Complex.
Sentences,	are classified in respect to kind or proposition, as	Declarative, Interrogative, Imperative, Exclamative,	Affirmative, or Negative.
Clauses,	are classified in respect to kind and proposition.		Principal, Subordinate, Co-ordinate.
Phrases,	are classified in respect to kind,		Prepositional, Infinitive, Participial.

Sentences, Clauses, Phrases, } are classified in respect to office, { Substantive, Adjective, Adverbial, Independent,

Elements of Sentences. } { Principal, { Subject, { Verb, Predicate, { Copula and attribute. Subordinate. { Object, Modifiers,

Elements of Phrases. } are classified into { Principal, { Connective, Subsequent, Adjunct, { Words, Modifiers.

Connecting Elements are classified into { Conjunctions, { Co-ordinate, Subordinate. Conjunctive Adverbs, Copulas, Phrases, Relative Pronouns. Prepositions.

Independent Elements are classed into { Interjections, Substantives, Words of Euphony.

LETTER-WRITING.

Good letter-writing is one of the foundation-stones of business, and one of the strongest connecting links of common life. It were to be wished that more attention were paid to the subject of letter-writing in our schools. In the present day, when ignorance is deservedly at a discount, and when so much is expected of every one, even in a humble position in life, there is no reason why letters should furnish so many examples of outrageous grammar and absurd diction.

Its importance.

A habit of expressing oneself distinctly and without pretension ought to be inculcated in early life.

When the difficulties of spelling have once been conquered, there will be little difficulty in enabling the pupil to acquire such simple forms of letter-writing as are necessary to the ordinary correspondence of business.

"True ease in writing," as Pope says, "comes by art, not chance," and every element of a complete education will find exercise in correspondence. Here we can offer only a few suggestions that may help one who is at loss how to begin, and may prevent anything like positive awkwardness or inelegance.

The chief purpose of this chapter is to guide in the manner of the mechanical detail of a letter. It is to be hoped that this subject will re-

Mechanical structure.

ceive attention, and that pupils may be taught HOW TO WRITE A LETTER.

Dead letters.

One can hardly realize that there is a daily average of 12,000 or 15,000 dead letters, or about 400,000 a month. In other words some 400,000 persons a month undertake to send letters either without stamps, without addresses, or with cancelled stamps, insufficient postage, illegible or incorrect addresses. Many letters are without either stamp or address, and often without signature. Strange as it may seem, these are sometimes the most valuable letters, often containing currency or drafts for large amounts of money. It is estimated that some $3,000,000 in drafts and $75,000 in cash are sent yearly in letters that cannot be delivered. This is all returned, if possible, to the persons sending it; but if any portion of it fails to find a claimant, it is turned over to the Post Office fund.

Loss of money.

Little difficulty is experienced in restoring checks and drafts to the rightful owners, but money generally comes in small sums, and is sent in the most careless, haphazard fashion. The loss of these amounts represents a deal of suffering and disappointment. Some hard working man may send $20, the savings of a month's labor, to his wife and little ones, whom he has had to leave behind him; but, alas, he is one of forty thousand who trust to Providence, without stamp or address, or else his writing or orthography are beyond mortal ken, and so the poor wife never gets the pittance which is her all.

During November, 1876, more than 400,000 letters, newspapers and postal cards, were received for delivery

by the letter carriers of New York city, of which 20,000 were returned by them as undeliverable on account of incorrect and illegible superscriptions. Four millions and a half accumulate annually in the United States.

Surely every teacher should give instruction in Letter-Writing.

It has been taken for granted, that pupils who could parse and analyze a simple sentence, bound the States and Territories, and explain an example in cube root, could write a passable letter; but *this is a mistake.* A majority of our pupils are only able to do what has been taught to them, and that *thoroughly.* It is not enough to say to pupils "You should be able to write a good letter;" you should make sure by your own instruction that they *can* write a good letter.

I. MECHANICAL STRUCTURE OF THE LETTER.

First Attempts.

"How shall I teach the pupil to write a letter?" Try the following method:—Ask him,—

1. What are you going to write about? Get the real fact or incident, and have him write it down in proper form, as his *subject.* Subject.

2. What is the *first* thing you wish to tell about? Tell him to write that down by itself, as he wishes to tell it. Proceed thus, with the several items, 2d, 3d, and so on, till he thinks of nothing more. So far you have the material. Now for the order. Ask him,— Analysis.

3. Which of these really ought to come first? If he hits on the right one, have him number it 1. If he is wrong, point out the right one. Proceed in the same way to find the proper second item, Arrangement.

and so on to the end. This settles the order. Now consider the paragraphs. Ask,—

Paragraphs.

4. Which of these seem to belong together in a group? Have them numbered a second time, as ¶ 1, 2, etc. Show the proper method for spacing the first lines of paragraphs. Attend next to the expression. Ask,—

Expression.

5. What long words can be changed for short simple words, or those in better taste? Have the changes made by interlining. Next, consider the capitals and punctuation. Ask,—

Corrections.

6. What ungrammatical words or expressions do you find? Whatever such he finds, correct by interlining. Such as he fails to find, point out and have corrected.

Capitals.

7. What words should begin with capitals? Have these marked.

Punctuation.

8. Where do we want a full separation? Have the period inserted. And so proceed, if other points are needed.

Now require a complete draught to be made. When this is done, examine and correct it under the pupil's close observation, explaining the corrections made. Lastly, require a carefully written copy according to the corrections.

Materials.

The materials for letter-writing should be of good quality. Good materials cost only a trifle more than poor ones. The paper for business correspondence should be white or tinged with blue. The size of the paper should be adapted to the size of the envelope to be used.

In business correspondence, it is not in good taste to use tinted or colored paper.

Avoid the use of all fancy inks, and use simple black; all other colors fade.

Do not use envelopes of irregular and fancy shape, and let them be adapted in size and color, to the paper. White is always suitable.

The Heading.

The Heading includes the place and date. If your letter is to consist of one page only, the proper position for the Heading is on the first line: if of less than one page, proportionately lower; so that the space at the bottom of the page may be equal to the space at the top. Begin the Heading a little to the left of the middle of the page, and if it is too long to be placed within the limit of a half line, let it be extended for completion to the next line below. It usually occupies two lines, but never more than three; when two lines are used the second should begin farther to the right than the first. Business letters should always be dated at the top; some place the date at the bottom; but this form is used more generally in social correspondence. When placed at the bottom it must be near the left edge of the paper, one line below the signature. (Model 5.)

Position.

The heading of a letter should be self-explaining. The name of the State and County should be expressed, unless the letter is addressed to a very large city, like New York or Boston. If the letter is written in a city the street and number should be expressed. The Heading should be *full* and *complete,* so

Place.

that when a person answers the message, he may know where to send.

Date. The date includes the month, day of the month, and the year; if letters are used after the figures, let them be placed on a line with the figures, and not a little above the line. The best usage requires cardinal numbers rather than ordinal—Dec. 10, not Dec. 10th.

Punctuation. The parts of the Heading should be separated by commas, and a period should be placed at the close of the Heading and after abbreviations. The ordinal adjectives 1st, 5th, 27th, are not abbreviations, and they should be followed by a comma. The Heading is an abridged form of sentence, composed of phrases, and phrases are usually set off by commas.

Suggestions. The teacher should write or have written on the board the correct form of the heading of a letter, calling attention to the position and arrangement of the parts, capital letters, and punctuation. He should require the pupils to copy the correct form on their slates, spell the words, and give the correct arrangement and position of all the parts.

Various Headings should be given by the teacher until the pupils are thoroughly familiar with them. A few lessons methodically given, will SECURE MASTERY.

MODEL 1.

Albany, New York,
June 10, 1877.

MODEL 2.

Amsterdam,
Montgomery Co., N. Y.,
June 11, 1880.

MODEL 3.

Vassar College,
Poughkeepsie, N. Y.,
March 21, 1880.

MODEL 4.

1109 East Genesee St., Syracuse, N. Y.,
Tuesday, Dec. 10, 1889.

MODEL. 5.

22 Clinton Street,
Troy, N. Y., May 11, 1887.

The Introduction.

The name of the person to be addressed should be given on the line below the Heading, at the right and near the marginal line. It may occupy one, two, or three lines. The first line of the address should contain the name and title alone; it should begin even with all the lines of the page, except the Heading and those that commence paragraphs. Position.

The American form of correspondence places the address before the salutation, except in letters of an official character; then it is placed at the close of the letter, at the left of the signature: this corresponds with the English style.

The direction should be as full in the address as in the Heading. The letter should be self-explaining; it should contain not only the name and residence of the writer, but also the name and residence of the person to whom it is written. Direction.

Name. The name should be written *in full;* for example, we write to J. C. Knox, Colorado Springs, Colorado; as it stands now it may mean James C. Knox or Jennie C. Knox. It is better, unless the party is well known, to write the full Christian name, and not the initials of the name. *Too much pains* cannot be taken in the address of letters and the superscription of envelopes. In New York city there are hundreds of persons by the name of John Smith; in order to avoid confusion and allay the passion of mail carriers, it would be better for all correspondents to write the *full name,* the *proper title* and the *name* and the *number* of the street.

Title. The common titles are Mr., Mrs., Miss, and Esq. Mr. is an abbreviation of Mister; Mrs. is an abbreviation of Mistress, but pronounced *Missis,* which is written *Mrs.;* Miss is not considered an abbreviation, but a contraction from the word *Mistress; Esq.* is an abbreviation of *Esquire.*

Titles. The following will illustrate the various titles fixed by custom.

To the King's Most Excellent Majesty.

To the Queen's Most Excellent Majesty.

To his Grace the Duke of Argyle.

To the Most Noble the Marquis of Westminster.

To the Right Honorable the Earl of Derby.

His Excellency Benjamin Harrison, President of the United States.

The title of *His Excellency* is also applied to the Governor of any State, or to a Foreign Minister.

Honorable Levi P. Morton Vice-President of the United States.

The title of *Honorable* is also applied to Senators and Representatives of the United States, Governors of a State, State Senators and Representatives, Judges, Mayors, and Heads of Executive Departments of the General Government.

The term *Esquire* is applied very indiscriminately. Properly it is limited to members of the legal profession, or to non-professional gentlemen of note and distinction.

Two titles of the same class should not be applied to the same name. Thus in addressing John Roe, do not say Mr. John Roe, Esq.; though you may say Mr. John Roe, or John Roe, Esq.

If the profession of the person addressed be known, the professional title should always be used. If a person be entitled to two titles, the higher is given; if both are used, the lower first, followed by the higher.

Titles of respect are usually placed before the name; as *Mr.*, *Hon.*, *Rev.*, *Dr.*, and military titles.

Professional titles sometimes precede, and sometimes follow the name. Dr. Fred Childs or Fred Childs, M.D.; Prof. Moses True Brown, or Moses True Brown, A.M.

All titles should be written plainly and in full.

One title should not include another as Dr. Graham B. Bristol, M.D. It is allowable in writing to a clergyman whose surname alone is known to us, to write Rev. Mr. Smith, the Mr. being in this case regarded as a substitute for the Christian name. A common but barbarous error is to write "Rev. Smith."

Two literary, or professional titles may be added to one name; thus, Prof. Leroy Cooley, A.M.; Rev. Dr. Shaw; Rev. M. B. Anderson, D.D., LL.D.

The wife of a professional man may be addressed, using the following title, as Mrs. Dr. Brown, Mrs. Secretary Bowen. It is no doubt a better custom for the wife to be addressed in her own name, as Mrs. Julia Ward Howe. It is required in business transactions.

Salutation.

The salutation should never be omitted; it expresses politeness, respect, or affection. The terms employed in writing to a man are *Sir, Dear Sir, My dear Sir.*

The word *Dear* implies that the parties are acquainted; *My dear Sir* suggests intimacy or friendship.

In addressing a married woman, the following form is usual, including the title and Christian name of the husband:

Mrs. Dr. J. J. Anderson,
105 Madison Avenue,
Albany, N. Y.

Madam,—

Avoid familiarity.

In the use of salutations, it is better to be too formal than too familiar. To use a term of affection when no endearment exists between the parties, is highly improper. It is assuming undue familiarity, not warrantable in business correspondence.

But do not be capricious.

On the other hand, a friendly correspondence once established must not relapse into mere formalities, unless a decided quarrel and separation have taken place. Small differences or disagreements should make no change in your modes of address and expression. You may some day have to oppose your friend at a caucus meeting, or in a warm discussion on religion or politics; yet his aversion to your views, and your impetuous opposition to his, are

not to prevent you writing "My dear Harry," or "My dear Tompkins," or "My dear Sir," as you did before the difference broke out. Depend upon it there is nothing more contemptible than to taint the amenities of social life with exhibitions of temper or vexation, or to suffer the pen to express unfriendly sentiments or greetings of a suddenly cool character, because some trifling difference has arisen between yourself and your friend.

Here it should be hinted that whatever mode you adopt in addressing a person, is to be preserved in future correspondence, if not in exactly the same words, at least the same in purport; you must not go back except for a special reason, but you may go forward with a proper grace as intimacy ripens, and increase the warmth of your congratulations.

We remember an incident which may be mentioned in illustration of this. A gentleman had been for many years on terms of intimate friendship with his tailor, and the correspondence between them, whether of a friendly or a business nature, had always a cordial tone pervading it, until on one occasion the friendship was slightly interrupted. In fact, the gentleman was a little in arrear as to the settlement of his friend s account, and the latter sent a short and brusque letter, as follows:

"Sir,

"I am disappointed in not having received the amount of my bill as promised by you in your last; may I beg the favor of a speedy settlement? Yours obediently,

SIMON SLOWSTITCH."

To this an answer was returned as follows:

"My dear Slowstitch,

"Last time you wrote I owed you nothing, and you addressed me as your 'Dear Nonplus'; but since I have unfortunately

failed to meet your demand, according to my own promise, you reduce me to a mere 'Sir,' upon your list of patrons. Do you intend to terminate a friendship of ten years in this way, or do you purpose resuming the 'Dear Nonplus,' with a view to be mine 'faithfully,' when the account is settled (as it will be to-morrow), remaining in the meanwhile mine 'obediently,' only? Will you allow me to suggest that expressions of friendship are open to question, both as to their value and their sincerity, when they are made to depend on business relations for their respective amounts of warmth or coldness which shall be infused into them. To be consistent, I shall have to adopt a cringing tone when I owe you money, and a tone of pompous patronage the moment I have paid it; that is, if any correspondence should continue between yourself and

Yours very truly,

STEPHEN NONPLUS."

Among the forms of address for friendly, complimentary and semi-business letters, we have the formal "Dear Sir" for use on all occasions. The solicitor so addresses his client, the client his solicitor, the patient his physician, the editor his contributor, and, indeed, any man of gentlemanly pretentions, addressing another to whom he has already been introduced, or with whom he has already corresponded. In correspondence of a professional nature, where both parties are strangers, it would always be well to commence with the simple "Sir," or "Madam," and in the second or third letter adopt the more agreeable "Dear Sir," or "Dear Madam." A little enhancement of the gentlemanly or ladylike feeling is to be found in "My dear Sir," or "My dear Madam," which may by degrees, as the parties know and respect each other more sincerely, take a very friendly and now fashionable form of "My dear Mr. Swallowwing," "My dear Mrs. Pettitoe," or "My dear Miss Nightingale." The latter form is that most in

use at the present day in polite society, between persons who have met at least once, and who are on terms of acquaintance, in which business has no part whatever.

When folks begin to say "My dear Higginbottom," "My dear old boy," and "My dear fellow," all strict rules of etiquette are at an end, and good sense gives a proper form to the free expression of mutual friendship.

The salutation used in addressing a woman, either married or single, is *Madam, Dear Madam,* or *My dear Madam.* In writing to a young unmarried lady, it is customary to omit the salutation and address her with the title prefixed to her surname, with the address at the bottom of the letter, at the left. (Model 9.)

In writing to women.

J. Willis Westlake says, "In writing to a lady who is a stranger or mere acquaintance, persons often feel a delicacy, (unneccessarily so, it seems to us,) about saying 'Dear Miss Blank,' or 'Dear Madam.' *Dear* does not mean any more in 'Dear Miss,' than it does in 'Dear Sir.' Surely no lady would hesitate to use the latter form of address in writing to a gentleman of her acquaintance; and the gentleman would be a fool to suppose she intended to make love to him by so doing. When Miss or Dear Miss is used in the introduction it must be followed by the lady's name; as 'Miss Flora May,' 'Dear Miss Barnes.'"

"Dear."

We should use the full form in the salutation; as *Gentlemen,* not *Gents; Sir,* not *Sr.; Dear,* not *Dr.*

The salutation should begin at the same distance from the marginal line as the paragraphs. If the address is omitted at the beginning of the letter, the salutation should be placed on the first

Position.

line below the heading, a little to the right of the margin, so that the places of beginning the paragraphs may be uniform and correspond to the salutation. (Model 11.)

Punctuation.

Place a period at the end of the address. The address and the salutation are not in the same grammatical person, the address being in the third person, and the salutation in the second.

As to the punctuation mark after the salutation, the best authorities use a comma, when the body of the letter begins one line below the salutation (Models 7, 10), and a comma and a dash when the body of the letter begins on the same line as the salutation (Model 8). In the English form of letter-writing, the salutation, simply, is placed at the beginning of the body of the letter, and the address at the close of the letter, a little at the left. (Models 9, 11, 12.)

Margin.

Always preserve an even margin in letters, and in all forms of manuscript. The French preserve two margins, one at the left, and one at the right; this adds to the appearance of the letter, making it correspond with the printed page. The Introduction to social and miscellaneous letters is in form the same as to business letters.

Suggestions.

All of the above points in the Introduction of a letter, should be neatly written on the board. The teacher should call attention to each part, its exact form and place.

He should require the pupils to copy the correct form on their slates; and upon review, require them to spell the words, give correct position and arrangement of all the parts, and punctuate the introduction correctly.

At this point in the instruction review the Heading and the Introduction together.

It is delightful to be able to write a good letter, and it is a pleasure to read one. In this like every other accomplishment, "practice makes perfect," and pupils should at once set to work with a determination to conquer the difficulties of writing.

MODEL 6.

Prang Educational Co.,
7 Park St.,
Boston, Mass.

Gentlemen,—I have received, etc.,

MODEL 7.

Messrs. Bangs & Co.,
737 Broadway,
New York, N. Y.

Dear Sirs,

Your favor, etc.

MODEL 8.

I. Edward Lyon,
Canisteo, N. Y.

Respected Friend,—I have the honor, etc.

MODEL 9.

Miss Griffin,

We are in receipt of yours, etc.

Miss Ida L. Griffin,
Mexico, N. Y.

MODEL 10.

Mrs. S. A. Gibson,
Kalamazoo, Mich.

Dear Madam,
Your kind favor, etc.

MODEL 11.

Dear Sir,—
Yours was received, etc.

Mr. S. H. Albro,
Fredonia,
N. Y.

MODEL 12.

Gentlemen,
Send me 10 gallons Hornstone Slating, etc.

Continental Pub'g Co.
154 Monroe St.,
Chicago, Ill.

The Body of the Letter.

The body of the letter is the message itself, exclusive of the Heading, Introduction and Conclusion.

Where begun.

The body of the letter may begin directly after the salutation, and on the same line (Models 6, 8); or on the next line below, a little to the right of the salutation (Models 7, 9-12). The salutation should never be placed so far to the right of the sheet of paper, as to leave room for only one or two words after it.

Paragraphing.

The paragraph indicates a new subject, and begins on a new line, which begins farther to the right than other lines. The first word of the first

paragraph commences after the salutation; the first word of the second paragraph should fall directly under the salutation, and so on with the remaining paragraphs. All paragraphs should begin at the same distance from the marginal line, preserving uniformity in the mechanical structure of the letter.

Even margin.

The Conclusion.

The conclusion of a letter is the part added to the body of the letter. It includes the closing compliments and should begin a little to the right, but near the middle of the first line below the body of the letter, about the same distance from the marginal line as the heading. The compliments may be broken into two lines, but it is not necessary. If composed of two lines, the second should begin a little to the right of the first, both lines beginning with a capital letter.

Position.

Social letters admit of many forms of closing:

Your friend; Your sincere friend; Yours with esteem; Faithfully yours; Yours heartily and affectionately; Most gratefully and faithfully yours; Yours very sincerely; Your loving daughter; Your affectionate father; Ever your affectionate friend.

Common business forms are Yours truly; Yours respectfully; Yours very truly; Yours.

The complimentary closing should be neither too familiar, nor too formal. It should have some reference to the salutation used, so that it may not seem inconsistent. If the salutation used be "*My dear friend,*" do not close with "*Your friend,*"—better "*Truly yours.*"

Be consistent.

Signature.

In writing the signature, begin a little at the right of the complimentary close, on the next line below. A letter should always be signed in a legible hand, and with accuracy, symmetry, uniformity and neatness. The full name should be written. Thousands of letters are dropped into the post-offices, having no name subscribed. It is well to write the address under the signature if you wish an answer to your letter; particularly if your letter is mailed at some other point than your regular residence.

Women's signatures.

If the writer is a woman, she should, in writing to a stranger, so sign her name as to indicate whether she is married or single.

Suppose a letter should be written by Miss Morris, for example, and signed K. E. Morris,—how is one to know whether the letter was written by a man or a woman; and the person receiving the letter,—how should he address it? He does not know whether to address it to Mr., Miss, or Mrs. K. E. Morris. The writer is thus placed in a dilemma; he must either address the letter without using any title, or risk making a mistake.

If the writer is single and unknown let her write her first name in full; or if she is married, or a widow, let her prefix Mrs. Or she may sign her name as she chooses, but give her full address at the left and below.

Punctuation.

A comma should be placed after the complimentary close, and a period after the signature.

MODEL 13.—SOCIAL FORM.

I remain as ever,

Yours sincerely,

Henry R. Sanford.

MODEL 14.—BUSINESS FORM.

I am, gentlemen,
Yours respectfully,
Chas. T. Barnes.

MODEL 15.—OFFICIAL FORMS.

I have the honor to be, Sir,
Your obedient servant,
Isaac V. Stout.

I have the honor to be, Sir,
Your most obedient servant,
Samuel H. Albro.

I am, Sir,
Your obedient servant,
Henry R. Sanford.

Very respectfully,
Your obedient servant,
Charles T. Barnes.

Neatly folding a letter will add very much to its appearance. This is a simple thing but it should be learned. Folding.

For note paper nearly as wide as the envelope is long, fold up the bottom so that it shall be nearly the width of the envelope, turn down the top in the same manner, and press the folds neatly together.

For paper of letter size, turn the bottom edge up so that it shall be nearly equal to the length of the envelope; then proceed in the same manner as above.

If the letter is to be enclosed in an official envelope, turn up the lower edge to the width of the envelope, and fold the top down over it.

MODEL 16.—SOCIAL LETTER.

Albany, Jan. 19, 1884.

My dear Sister,

Your letter makes me perfectly happy. I have so much to tell you, and so much to hear from you, too (O, you sly puss, a little bird has told me all about him!), that I can hardly wait for Wednesday and three o'clock. You will see my face first of all at the depot, and don't let the train be late.

Till then, and always,

Your loving sister,

Mary B. Davis.

Miss Eunice Davis,
Granger Place School,
Canandaigua, N. Y.

MODEL 17.—BUSINESS LETTER.

419–425 So. Clinton St.,
Syracuse, N. Y., May 28, 1888.

Sup't M. W. Scott,
Binghamton, N. Y.

Sir,—Yours of May 26 is duly received. I am glad to receive your order, and will ship the goods to you by the first of next week. Trusting they will prove satisfactory, I am,

Yours very respectfully,

Albertus D. Perkins.

Superscription.

We have finished the letter and are now ready to superscribe it. This Superscription is written on the outside of the envelope. It consists of the name and title, post-office, county and State.

Position.

Every element of the Superscription should be on a separate line. The first line, consisting of the name and title, should begin below and at the left of the centre; the second should begin a little further to the right; the third a little further to the right than the second, and so on.

The spaces between the lines and the space below the last should be equal.

Great pains should be taken in writing the Superscription, and the full form should always be used. Each part should be written legibly. It is always the safer way to express the name of the county, unless the letter is directed to a large city.

Punctuation.

Place a period after abbreviations; when the abbreviation is at the end of a line, place a comma after each line, and a period at the close.

Postage-stamp.

A postage-stamp should immediately be placed upon the envelope, lest it be forgotten. It should occupy the upper right-hand corner, about a sixteenth of an inch from the upper and from the right edges. Pains should be taken to put it on neatly. It is better to moisten the envelope than the postage-stamp, as the latter often becomes too wet if applied to the tongue, and falls off the envelope.

MODEL 18.

Mr. A. C. McLachlan,
Sup't of Schools,
Seneca Falls,
New York.

Seneca Co.

MODEL 19.

Mrs. Anna Randall-Diehl,
54 W. 55th St.
New York, N. Y.

MODEL 20.

Hon. N. A. Calkins,
124 East 88th St.
New York, N. Y.

MODEL 21.

Gardner Fuller, A. M.,
Batavia,
New York.

Genesee Co.

REVIEW.

1. Develop every part of the letter.
2. Illustrate and explain each part on the board.
3. Require pupils to copy the correct form.
4. Require pupils to reproduce each part.
5. Carefully examine the pupil's work.
6. After all the parts of the structure of a letter have been taught *thoroughly*, and the pupils have been *drilled*

sufficiently, require them to reproduce the whole correctly.

7. Teach them how to place the superscription upon the envelope, and require them to hand in a letter properly written, folded, inserted, and superscribed.

Review.

Classification of letters.
- I. Private.
  - 1. Social.
    - *a.* Domestic.
    - *b.* Introductory, etc.
  - 2. Business.
    - *a.* Personal.
    - *b.* Official.
  - 3. Miscellaneous
  - 4. Postal Cards.
- II. Public or Open.

Structure of Letters.

A. Materials.
- 1. Paper.
  - *a.* Size.
  - *b.* Quality.
  - *c.* Color.
- 2. Ink-Color.
- 3. Envelopes.
  - *a.* Size.
  - *b.* Color.
- 4. Pen.

B. Heading.
- I. Position and Arrangement.
- II. P'ts.
  - 1. Place.
    - 1. Post Office. (No. / St.)
    - 2. County or City.
    - 3. State.
  - 2. Date.
    - 1. Month.
    - 2. Day of the Month.
    - 3. Year.
- III. Punctuation.

C. Introduction.
- I. Position and Arrangement.
- II. Parts.
  - 1. Address.
    - 1. Name and Title.
    - 2. Direction.
  - 2. Salutation.
- III. Punctuation.
- IV. Model.
  - 1. Business.
  - 2. Social and Miscellaneous.

- *D.* Body of the Letter.
  - I. Substance.
  - II. The Margin.
  - III. Paragraphing.
- *E.* Conclusion.
  - I. Position and Arrangement.
  - II. Parts.
    1. Complimentary Close.
    2. Signature.
    3. Address.
  - III. Punctuation.
- *F.* Folding.
- *G.* Superscription.
  - I. Position and Arrangement.
  - II. Parts.
    1. Name and Title.
    2. Direction.
       1. Post Office.
       2. County.
       3. State.
  - III. Punctuation.
  - IV. Legibility.
- *H.* Postage Stamps.
  1. Place.
  2. How put on.

Specific Hints.

Careful penmanship.

On the subject of penmanship, M. Ernest Legouvé tells his grandaughter: "The people who praise you to your face and laugh at you behind your back, say, 'Ah! all clever people write badly.' Answer by showing as I have shown you a hundred times, letters of Guizot, Mignet, and Alexander Dumas the elder, which are models of caligraphy. Write well, my child, write well! Pretty writing in a woman is like tasteful dressing, a pleasing physiognomy, or a sweet voice."

Interlining.

Careless writers who correct their letters often cross out and interline until the writing is illegible. This is inexcusable.

Copy and re-copy until every part of the letter pleases the eye. An hour or two devoted to careful copying will lead to habits of accuracy.

Tautology is quite common with inexperienced writers; when a fact has been stated once,—the point made distinctly and clearly,—repetition only weakens and confuses. Tautology.

Sidney Smith once remarked: "After you have written an article, take your pen and strike out half the words, and you will be surprised to see how much stronger it is."

Never allow a blot to be seen in your letters; it is slovenly. Blots.

Avoid flourishing in letter writing; it is indicative of dash and display. It goes with an Alaska diamond pin, alligator boots, hair parted in the middle, and a slim cane. Flourishes.

If it is necessary to write more matter than can be properly placed on the pages of a letter, use another sheet of paper. There is seldom excuse for writing on the margins of the sheet and over the body of the letter. Cross-lines.

In reading, certain words are emphatic, and when properly emphasized increase the intensity of the thought. Underscoring.

In writing it sometimes adds force to the expression to underline certain words; but indiscriminate underlining is as ineffective as it is disagreeable.

A postscript is something added to a letter after it is properly finished, and is generally unnecessary. Postscripts.

When the writer has received new information after the letter is finished, it may then be added. It is not best to get into the habit of appending postscripts. It

is especially rude to consign to a postscript any word of compliment or affection, as an afterthought.

&

The character & may be used between the surnames of a business firm or between the initial letters of Christian names; but as a rule it should not be employed to take the place of the word for which it stands.

Figures.

Figures are used for dates, time of day, rates, quantities, prices, aggregate amounts, etc. In commercial paper it is best to use both figures and words.

Use ink.

Business letters are generally preserved, and as lead pencil marks are easily blurred or erased, it is not business-like to use the lead pencil in correspondence.

Letters for newspapers.

It would be a great favor to editors and printers, should those who write for the press observe the following rules. They are reasonable, and correspondents will regard them as such: 1. Write with black ink, on white paper, wide ruled. 2. Make the pages small, one-fourth that of a foolscap sheet. 3. Leave the second page of each leaf blank. 4. Give to the written page an ample margin *all around*. 5. Number the pages in the order of their succession. 6. Write in a plain, bold hand, without respect to beauty. 7. Use no abbreviations which are not to appear in print. 8. Punctuate the manuscript as it should be printed.

II. THE STYLE OF THE LETTER.

Simple language.

Use the simplest terms. Fine words are avoided by educated people. Pompous expression and parade of language betoken lack of culture. Simplicity should characterize all correspondence.

The words we use are an index to the mind and heart. Your letter will be accepted as a type of your mind and an index of your thoughts. Slang phrases are inconsistent with dignity of thought, word or deed. And be sure your language is chaste. Pure words show a pure heart.

Slang.

It is not considered good taste to use foreign words, unless necessity requires them. It is better to use pure English.

Foreign words.

If people would plainly say what they think, without roundabout phases, and without being haunted at every step with the thought of saying fine things, and the necessity of moving on stilts in order to show style, they would be more interesting and effective.

William Cullen Bryant once made the following sensible remarks to a young man who had offered an article for the New York *Evening Post*.

Bryant's advice.

My young friend, I observe that you have used several French expressions in your letter. I think if you will study the English language, that you will find it capable of expressing all the ideas that you may have. I have always found it so, and in all that I have written I do not recall an instance where I was tempted to use a foreign word, but that, on searching, I have found a better one in my own language.

Be *simple, unaffected;* be *honest* in your speaking and writing. Never use a long word when a short one will do as well.

Call a spade by its name, not a well-known oblong instrument of manual labor; let a home be a home, and not a residence; a place, not a locality; and so on of the rest. When a short word will do, you always lose by a long one. You lose in clearness; you lose in honest expression of meaning; and in the estimation of all men who are capable of judging, you lose in reputation for ability.

The only true way to shine, even in the false world, is to be modest and unassuming. Falsehood may be a thick crust, but in the course of time truth will find a place to break through. Elegance of language may not be in the power of us all, but *simplicity* and *straightforwardness* are.

Write much as you would speak, and as you think. If with your inferior, speak no coarser than usual; if with your superior, speak no finer. Be what you say and within the rules of prudence. No one was ever a gainer by singularity of words or in pronunciation. The truly wise man will so speak that no one will observe how he speaks A man may show great knowledge of chemistry by carrying bladders of strange gases to breathe; but one will enjoy better health, and find more time for business, who lives on common air.

III. SUBSTANCE OF THE LETTER.

Any one may write good letters.

Letter-writing is very much a matter of habit, and for that reason it is important that young people should learn early to consider it a pleasant way of communicating thoughts and feelings to their friends, instead of a burdensome task to be got over as quickly as possible.

We often hear people excuse themselves by saying that they have no "gift for writing letters," as though it were something like a talent for music, only accorded to a favored few. But the truth is that any one can write interesting and pleasant letters who will take a little trouble and really persevere in the effort. The grand difficulty in the way is that they are too selfish and too indolent to try. Nothing that is worth anything comes without effort, and if you do not care enough about gratifying your friends to take a little pains for it, you deserve never to receive any letters yourselves.

"Do not think what to write; write what you think," is an old rule, and a good one to remember. If you are away from home, it is very selfish not to share your good times with the family by writing frequent letters. You can tell what you are enjoying so much better while it is fresh in your mind, than you can after your return, when you may not have leisure to go over the whole ground; and these home letters may be a means of afterward refreshing your own memory, and reminding you of incidents which you would otherwise have forgotten. There are many other things which might be said here, but this will do for the present. A very good rule for letter-writing is the golden one, "Do as you would be done by." What to write.

Write all that you have to say on one subject at once. That is, do not begin to tell about your garden and then about your school; and then about you garden again; but finish one subject before you begin another. Do not be afraid of using the pronoun I. Some people avoid it and thus give their sentences a shabby and unfinished sound, as "Went to Boston—called on Mrs. Smith." Never apologize for what you write by saying that you do not like to write letters. You would not think it quite polite in visiting a friend, to say, "I do not like to talk to you, so I shall not say much." Keep the idea before you that you are writing for the sake of giving pleasure to your friend. Write fully.

When your letter is merely an inquiry, or on a matter of business, the case is different. You then should try to be as brief, concise, and clear as possible. An elaborately drawn-out business letter is as out of place as it is inconsiderate.

Write as you talk.

Do not consider anything too trivial to write about which you would think worth mentioning in conversation. Writing letters is simply talking on paper, and your friends will be much more entertained by the narration of little every-day affairs than by profound observations upon topics which they care nothing about.

In writing to very intimate friends, who will be interested in the details of your daily life, it is well sometimes to make your letters a sort of diary—telling something of how you have spent each day since you wrote last; what books you have been reading, what letters you have received from mutual friends, and what you have seen or heard that has interested you.

Don't defer writing.

Many persons, not much accustomed to use the pen, have a notion that if any occasion happens to call for a letter on any business matter, they must immediately compose a tedious rigmarole of statements and explanations; and, finding it difficult to make up what they consider "a capital letter," they defer writing until the occasion is perhaps gone, or at least until the business in hand has suffered considerable injury by the delay. But if they divest their minds of all ideas of literary composition, and just write what they would *say*, in the fewest possible words, and *at once*, such persons would find correspondence agreeable rather than irksome.

Finish your stories.

You will find it easier to reply to a letter soon after you get it than if you neglect it for a few weeks, because you will have the impressions which the first reading made upon your mind. Tell your friend when you received the letter which you are

answering, and take up the topics in the order which they naturally come, remembering to answer all the questions which have been asked. Try to think what your friend would like best to hear about, and when you undertake to tell anything do not leave it half told, but finish the story. People who are not careful about this often give a false impression without meaning to do so. For instance, one of these careless writers, in giving an account of a fire, simply stated that the house was burned, without giving any qualifications, thus giving the impression that it was entirely consumed, and causing a whole family much unneccessary trouble and anxiety, as the actual burning in question was very slight.

When to delay.

To this rule there is a single exception. Friendship, like all other moral and material adornments of life, is subject to blight occasionally, and the strongest union may be dissolved by a fiercer heat arising from the combustion of the very dregs and lees of amity. Your friend annoys you, disappoints you, breaks his word, or lets off a bit of scandal that reaches your ears. Then you will "write him *such* a letter," you'll tell him plainly what you think of him, and put him to shame by the evidence of black and white.

Now, if you are wise you will do nothing of the sort; you will never write a single word that may cause shame or pain in the reader's mind, or that the writer may have cause hereafter to regret. A letter is a document that may be preserved forever; and should you be mistaken, or only partially informed, or the victim of your own too hasty or incompetent judgment, your own hand and seal may remain as a witness of your rashness, perhaps

of your meanness, to the end of your days, ay, and long after that, to the end of the world even.

Bitter words.

Therefore if you want to tell your friend your mind, do not *write*, but *speak* it; a spoken bitterness may be forgotten and forgiven, but a written one cannot be so readily forgiven, and can never be forgotten; no, not even if burnt; for when we are stung in the perusal of something, the effect goes deep, and can never be obliterated, even by all-corroding time. A fierce letter, a sharply written reproof, a disparaging communication to a friend, has been the cause of embittering many pairs of lives. Never should that be written which we may hereafter wish to recall. We are all fallible, and may be much in error when we feel sure that we are right. That consideration should be sufficient to make any sensible man or woman pause before giving vent to anger, with the pen in hand.

But exceptions to such a rule may occur; an admonition, a reproof, nay, even an accusation, may sometimes be necessary, and a letter be the only possible mode of conveying it. Let good sense and good feeling determine how the case shall be, and let it at the same time be borne in mind that what is once written cannot be unwritten, and that greater caution is necessary in using the pen, than in using the tongue.

Apologies.

In apologizing for misconduct, for failing to meet an engagement, or for lack of punctuality, always state the reason. Letters of excuse should be written as promptly as possible.

In asking favors, do not urge the claims too strongly. Should a refusal be the result, the humiliation will be felt deeply.

Letters refusing favors, should be kindly worded, and should state the reason.

In writing a letter, the answer to which is of more benefit to yourself than the person to whom you write, enclose a stamp for the reply. This may seem to be a small matter, but business firms usually adopt it, and it is only just.

Enclose postage-stamps.

A letter of introduction, or recommendation should never be sealed, as the bearer by whom it is sent ought to be presumed to know the contents.

Hints.

As a rule, every letter, unless insulting in its language, requires an answer. To neglect to answer a letter is uncivil.

Business letters must be pithy, short, and go straight to the point. Pleasantry is not advisable. It is best carefully to distinguish letters of business and of friendship.

Every paragraph should be marked by *extreme clearness and perspicuity;* so clear and unambiguous that the dullest person may be able to understand it exactly.

For the sake of perspicuity, careful attention to punctuation is necessary.

All intercourse between parents and children should be free and confidential.

Read your letter *carefully* when finished, to see that you have made no omissions or mistakes.

Be very sparing of letters of advice. Even when solicited, advice often gives offence, and it should be obtruded only when the necessity seems overwhelming.

ARITHMETIC.

In order to teach arithmetic successfully the teacher should have an idea of the subject as a whole. The most difficult part of the subject—as in all subjects—is the fundamental part; and unless that is thoroughly taught, the after results will be unsatisfactory.

All depends on the foundation.

More time is given to the subject of mathematics in the schools than to any other study. Important as it is, it should not receive an undue proportion of time,—it should not be pursued at the expense nor to the neglect of other studies of equal importance, as language, reading, spelling, etc.

Nothing is gained by passing rapidly through the primary part. Pupils should be perfectly familiar with all the fundamental operations; able to write numbers of five and six periods without hesitation; to add rapidly and accurately long columns of figures; and to perform all computations in the fundamental rules with dispatch.

Make haste slowly.

The first part of arithmetic should be simple, and the lesson should be given orally by the teacher. More attention should be given to the study of *processes* than to *analysis—computation* comes first, elaborate reasoning afterward. During the primary course the aim should be to make pupils learn *how to do it.*

Facility before reasoning.

Little attention should be given to definitions; if used they should be fully understood and explained, otherwise they may be committed to memory, and this is not necessary during this period. The pupils should be able to explain the processes, but they should not be required to commit the rules to memory, nor the principles. Definitions.

Definitions, rules, and principles are deductions,—do not burden the children with these. They belong to the science of arithmetic.

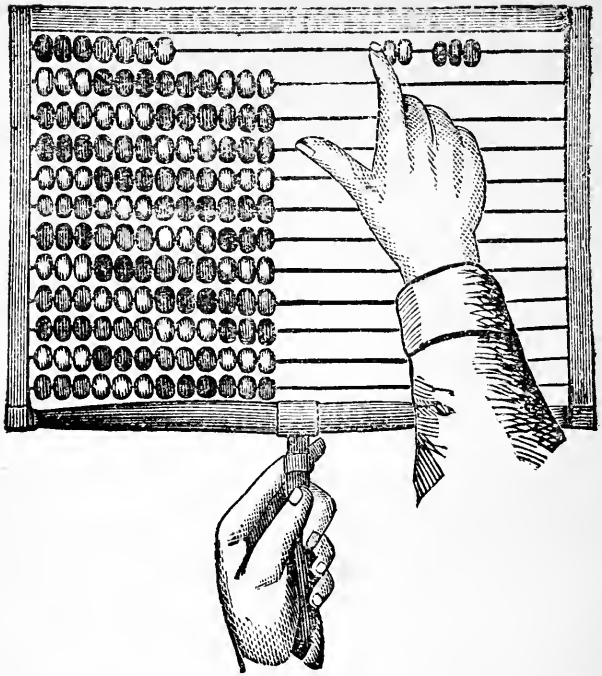
Thomas Hill says in his book, "The True Order of Studies," that "the science of arithmetic receives so much attention that the art is neglected." The primary object of arithmetic should be, not to develop the reasoning power, but to make pupils skilful in computation.

He further says, that "A child should not be expected or required to reason at an early age. Any direct training of the logical powers before the age of twelve years is premature, and in most cases a positive injury to the pupil. The common sense view would give facts before reasoning. Reasoning upon facts is the work of a maturer mind." Granting this to be true, arithmetic is taught backwards in many cases, beginning with reason instead of observation.

I. THE FUNDAMENTAL RULES.

The teacher should begin the lessons in number with objects, using pencils, crayons, pebbles, books; also a numeral frame. Begin with objects.

"Initiate children in arithmetic by means of the *ball-frame alone,* thereby making their elementary instruction a simple and natural extension of their own daily



observation," says Laurie, in his standard book "*On Primary Instruction in relation to Education*," (p. 112), and as he leaves the subject of arithmetic, he adds this note, as if in fear he had not been sufficiently emphatic:

"The teaching of arithmetic should be begun earlier than is customary, *and always with the ball-frame*" (p. 117).

The object is to lead the children to the perception of the idea of numbers, as exemplified in surrounding objects.

The idea to be gained at first is that of *one*, as it is the basis of all arithmetical calculations.

The teacher should hold up one object before the class, as one pencil, one crayon, etc., until every child understands what is meant by one.

Tell the pupil that one is the word that expresses "the how many," the number.

After you have taught the word one, then teach the character that represents it.

"Develop the idea, then give the term; educate the eye, then employ the hand; cultivate the use of language, then exercise memory."

Pupils should not count one, two, three, etc., naming the abstract term; they should say one pencil, one crayon, one book.

Proceed in the same manner to teach two, by holding up two objects of different kinds. After they are made familiar with the number of objects, let marks be made on the blackboard; then the characters that represent the number of marks. Let children reproduce at their seats the work given at the board by the teacher.

At this point see that the pupils get the idea of the value of numbers, by comparing a greater group of objects. Value of numbers.

Care should be taken to teach the order of numbers, so that the children can tell what number comes before and what after any given number. This may be illustrated with the class, or the picture of a ladder. Order of numbers.

Teach the pupils in the same way to write numbers to 99. Give no instruction about units and tens, etc., until a later period.

Teach the subject so thoroughly that your successor will not be obliged to instruct in it.

Numeration and Notation.

The pupils have been taught thus far to deal with ones. They are now supposed to be familiar with the numbers to 1,000. They may now Units.

be taught that there is another name—unit, which means a single thing—that may be used with the figures, as 1 unit, 2 units, etc.

Tens.

At this stage the teacher may provide several small sticks, about the size of matches. Take several sticks and let the pupils count 10; proceed in the same manner until 10 bundles have been made; now let them see that 1 bundle contains 10 sticks, or ten units, or ten; 2 bundles, 20 sticks, or 20 units, or 20; and so proceed until you reach 100.

Write numbers on the board to correspond with the objects and groups; let them read the numbers, as 1 ten and 1 unit, 1 ten and 2 units; 20, 2 tens; 30, 3 tens, etc.

Notation.

When the pupils can readily read columns of units and tens, they may be required to write these numbers on the slate. The teacher may dictate numbers. Let them write numbers below 100, and ask them what they used to write the number. For example, write 86. How did you write it? With 8 tens and 6 units, etc.

Numeration.

They have been already taught that 10 units make 1 ten, and 10 tens make 1 hundred. Now let them read the numbers. For example 123; 3 units, 2 tens, 1 hundred, read 123 units. The teacher, after sufficient drill, should obtain bundles with 100 sticks.

Supplement these illustrations with dictation exercises, and so proceed until the pupils are made familiar with and can write numbers readily from dictation on the slates and at the board, and read their values.

Orders of units.

The pupils must have a clear idea that units may differ in size and value—that one of anything is a unit, whether large or small. One

bushel is a unit; one dollar is a unit; one cent is a unit. They have already been taught that numbers are built up of simple "ones," so far as 100; that each ten is considered as a whole, or 1 ten; that each hundred is regarded as a whole, or 1 hundred.

Now they are prepared to see what is meant by a unit of the first order, of the second order, of the third order, etc.

This step is sometimes omitted in teaching number. It is a very important one; it should be carefully taught and the pupils thoroughly drilled upon it.

Let them see that it is the position of a figure that determines its value.

Do not promote too rapidly.

Teachers are too ambitious in advancing pupils in arithmetic. Some teachers will promote to higher classes pupils that could not pass an examination in notation and numeration. Frequently we find pupils ciphering in percentage, who fail in writing and reading a number of four figures. Never let pupils pass beyond the fundamental rules until they are familiar with them, and are able readily to apply them.

They will make slow progress in the advanced steps if this is not understood,—they will make rapid progress if it is thoroughly understood.

Teach so thoroughly that your successor may not be obliged to unteach what has been taught.

Too much pains cannot be taken with notation, numeration, and addition. The law of increase and decrease may be thoroughly developed with these rules.

Again we repeat, "not how much but how well."

Addition.

Addition.

Begin the subject in the same way as the first, with objects. Marks upon the blackboard may be used after the children have become familiar with adding objects. Use the numeral frame but see that the children do not confound counting with adding.

Use of objects.

Let pupils add concrete numbers without having the objects before them. The continued use of objects as counters by children is a positive harm, as they look to them for results rather than to memory. It is only another form of counting on the fingers.

Economy of words.

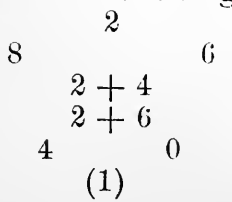
Do not let the pupils add numbers in the following manner: "What is the sum of 8 apples, 7 apples and 4 apples? 8 apples and 7 apples are 15 apples; 15 apples and 4 apples are 19 apples." Rather have them say; "8 apples, 15 apples, 19 apples." Simply announce the results and do not allow them to count.

The one aim.

The concrete numbers may soon be dropped altogether for they interfere with the one aim the teacher should have in view—the *instantaneous* recognition in any two numbers of their sum.

A German expedient.

Many expedients to effect this have been devised. Thus the Germans construct tables like the following:



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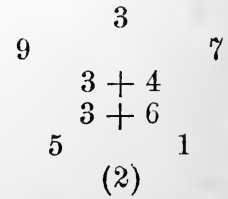

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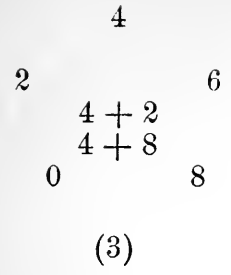

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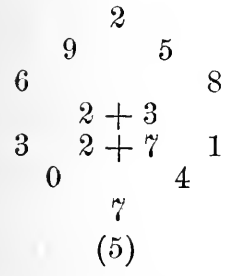

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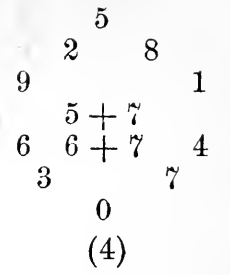

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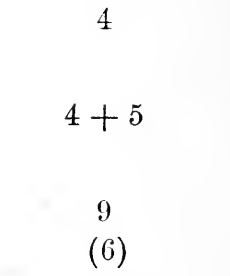

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In circle No. 1, begin with 2, add 4, and write the results about the circle. When the result exceeds nine, write the right hand figure only. Beginning with 1, passing to the right, we have the following: 2, 6, 10, 14, 18, 22, 26, 30, 34, 38, 42, etc.; again beginning with 2, passing to the left, we have the following: 2, 8, 14, 20, 26, 32, 38, 44, 50, etc.

In order to form the circular tables, take any number less than ten and add a number to it, and continue the successive additions until you repeat the first figure; write these numbers about the circle.

Begin with the number 1, and add the number to 10; and so on with each number.

This exercise produces great ambition in the school, and pupils like to take part in it. They should first be called on to recite in concert; subseqently by individual drill. Time them, and see how many seconds they will

require to add 100. Only six of the tables are given. many others may be made by the teacher. The Germans have attained grand results with the circular tables.

The word method in number.

But a more direct and effective method has been devised by Mr. H. R. Sanford, one of the New York State conductors of teachers' institutes. It consists of 45 cards containing the 45 possible combinations of two digits, arranged as in the accompanying figure, each card having on its back the same numbers in reverse order.

Problems in addition, subtraction and multiplication are everywhere written for solution in this one way, viz., one number above the other with a line beneath. Evidently the method of drill should be the same. He thinks there is no advantage in the making of rules by children.

His plan is to follow each development lesson immediately with a drill upon all combinations developed, using these cards *exclusively*. Hold the package of cards selected for a lesson in one hand before the class, and rapidly move them one at a time to the front; the teacher thus sees one side and the pupils the other. Concert exercises are not recommended. The best results will be obtained by calling pupils miscellaneously and presenting several cards in rapid succession. Only two daily exercises of ten minutes each are necessary. *Do not introduce new cards too rapidly.*

At every exercise review all cards previously used as long as necessary. Answers must be instantaneous. The least hesitation should be considered a failure. Present the cards selected for a particular exercise miscellaneously so that no answer can be known from the preced-

ing. The position can not indicate the result as when numbers are arranged on a chart, or tables are made by the children.

Let the drill be so thorough that when a pair of figures is seen, as $\frac{7}{9}$, the sum, difference or product as required will *instantly* appear to the mind; e. g., at the first glance the pupil *reads* $\frac{7}{9}$ as 16, not as 7 and 9 are 16, as CAT is read as a word, not as C-A-T.

Pursue the same plan in subtraction and multiplication. When in subtraction the smaller number is above, pupils will readily add ten to the minuend and give the remainder in the usual manner.

No other means will be necessary for the complete mastery of the multiplication table in a marvelously short time.

After perfectly learning the multiplication table, very little drill is needed in the division table.

When the number 4 has been reached, commence column work, but never let the *sum* be greater than the last number developed. The columns will gradually become longer and the sums greater, yet *no new combination of single pairs of figures can possibly occur.*

Finally let the columns be read up and down silently, giving only final results. This can be done with remarkable rapidity and accuracy, if all single combinations involved have been thoroughly learned by card drill.

Wonderful results have been obtained with these cards in normal and other schools.

Because pupils thus learn the combinations of numbers, they learn that combining the 4 and 5 will always produce a 9; a 6 and a 5 a 1; 9 and 5 a 4; 8 and 5 a 3;

7 and 5 a 2, etc., and by daily systematical drill they overcome the hesitancy which is a common fault in American schools. No rule in arithmetic is used so much as addition, and no pains should be spared to teach it well.

An experience of fifteen years at institutes has revealed sad results in adding simple columns of figures. In many instances the teachers had not been taught to add properly in their youth, and we have frequently received twenty-five different answers to a problem like the following:—

Add 8085, 7898, 7697 and 9876.

We are thus particular and emphatic, concerning the early steps of mathematical education, because it is "the first step which costs." Much more labor is required to unlearn than to learn. The teachers for the younger classes should possess particular aptness for imparting instruction. Such teachers deserve and are beginning to receive better wages.

The first step costs.

After the pupils have mastered the fundamental rules and their reasoning powers begin to develop, the teacher should require an analysis of the problem.

Analysis.

The mechanical operation—the doing part, should not be confounded with the logical operation—the thinking part, but the latter has its place. Thus:

What is the sum of 8764, 9789, 5786 and 9843?

$$\begin{array}{r} 8764 \\ 9789 \\ 5786 \\ 9843 \\ \hline 34{,}182 \end{array}$$

I have written the numbers so that units of the same order stand under each other. For convenience I will begin at the right hand; adding the first order, the sum is 22 units. As ten units make one ten, 22 units are equal to 2 tens and 2 units; I will write the 2 units in the order of units, and add the two tens to the order of tens.

Proceed in this manner with each order, giving the reasons for every step.

Require the pupils to deduce the rule from the analysis.

Analysis of Concrete Problem.

Problem :—If a horse cost $120, and a wagon $110, and a harness $90, what will be the entire expense?

Analysis :—The entire expense will be the sum of $120, $110, and $90; or $320.

The simplest and most concise analysis should be taught to the children. No unnecessary words should be allowed in the analysis of a problem.

Subtraction.

This subject should be taught like addition, beginning with objects, first by taking away one object, then two, objects, etc. After the pupils have become familiar with this process, then use marks on the board, subsequently using concrete numbers without having objects before them. At first ask the pupils to answer in concert, followed by individual drill.

First by objects

After the children have become familiar with the preceding processes, the teacher may write numbers on the board as far as 9, and require the children to subtract one, then two, then three, etc. Vary the processes. For rapid work Sanford's cards will be found effective.

By figures.

When the figure in the subtrahend is greater in value than the corresponding figure in the minuend, the process must be explained clearly. Minuend smaller.

Subtract 456 from 824.

824	or	7 11 14
456		4 5 6
368		3 6 8

I have written the numbers as in addition, writing the subtrahend under the minuend. Analysis.

Begin at the right hand to subtract. Six units from 4 units I cannot take; take 1 ten from the 2 tens and it equals 10 units; 10 units and four units are 14 units; 6 units from 14 units equal 8 units; write underneath in the units order.

Five tens from 1 ten I cannot take; take 1 hundred from 8 hundreds and it equals 10 tens; 10 tens and 1 ten equal 11 tens; 5 tens from 11 tens equal 6 tens; write it underneath in the tens order. Four hundreds from 7 hundreds leave 3 hundreds, etc.

By this process it will be observed that the form of the minuend was changed without altering its value. The subtrahend in form remained unchanged. The teacher should see that the pupils understand that 8 hundreds, 2 tens and 4 units are of the same value as 7 hundreds, 11 tens and four units.

This is a simple analysis and easily understood.

I cannot take 6 units from 4 units; so will add 10 units to 4, equal 14 units; 6 units from 14 units equal 8 units; as I have added 10 units to the minuend, in order to preserve the equality, I must add 10 units or 1 ten to the subtrahend; adding 1 ten to 5 tens equals 6 tens; 6 tens from 2 tens I cannot take; I will add 10 tens to two tens, equal to 12 tens; 6 tens from 12 tens equal 6 tens; as I have added 10 tens or 1 hundred to the minuend I must add 1 hundred to the hundreds in the subtrahend; 4 hundreds and 1 hundred are 5 hundreds, and 5 hundreds from 8 hundreds leave 3 hundreds. This depends upon the Another explanation.

principle that to add equal numbers to both minuend and subtrahend does not alter the value of the remainder.

This analysis may be required in addition to the first, but is not to be preferred to it.

Ciphers in the minuend.

When there are ciphers in the minuend, the explanation is similar.

Subtract 456 from 1000.

$$\begin{array}{r} 9\ 9\ 10 \\ 1\ 0\ 0\ \ 0 \\ 4\ 5\ \ 6 \\ \hline 5\ 4\ \ 4 \end{array}$$

Analysis:—There are no units in the units order, no tens in the tens order, no hundreds in the hundreds order. In 1000 there are 9 hundreds, 9 tens and 10 units. Six units from 10 units equal 4 units; 5 tens fom 9 tens equal 4 tens; 4 hundreds from 9 hundreds equal 5 hundreds. (The form of the minuend has been changed, but not its value.) Deduce the rule.

Multiplication.

Problem:—What will 40 books cost at $9 apiece.

Analysis:—Since one book costs $9, 40 books will cost 40 times $9, equal to $360.

The teacher should insist that the pupils use the *true multiplier* in all concrete problems.

Drill upon the multiplication table. Require pupils to say it forward, backward and irregularly, till every product of two numbers presents itself to the mind instantly. Make constant use of Sanford's cards.

Division.

First by objects.

Begin with objects; ask questions as follows: What have I on my table? *One apple.* How many times can I take one from it? *Once.* What have I placed on my table? *Two pencils.* How many times can I take one pencil from my table? *Two times.*

Each may place one watch on his desk. How many times can you take one watch from your desk? *Once.* Place three drums on your desk. How many times can you take three drums from your desk? *Once.* How many times can you take one drum from the desk? *Three times, etc.*

Place eight books on the desk. How many times can you take four books from the desk?

How many times can you take two books? *Once, twice, three times, four times.* How many times can you take one book? *Once, twice, etc.* Place sixteen pencils on the desk. How many times can I take four pencils from them?

Place ten coins on the desk, and divide them into two equal parts; how many coins in each part? Place nine books on the desk, and divide them into three equal parts; how many in each part? Take away one part, how many *parts* will remain? Take away one part, how many books will remain? Place sixteen pencils on the desk, and divide them into four equal parts; how many pencils are there in each part?

By the use of oral abstract questions, thus: How many two's in 8? In 2? In 14? In 10? How many times can four be taken from 8? From 24? From 32? Twelve is how many times 2? How many times 4? How many times 6? How many times are four contained in 8? In 12, in 20? etc. Sixteen contains 2 how many times? Contains 4? Contains 8? etc. What is one-third of 9? Of 15? Of 21? Of 18? etc.

Then by abstract numbers.

The Grubé method.

It is usual to teach the subject of addition by itself, then subtraction, etc. By the Grubé method the pupil begins with 1, and learns all there is to know about it before passing over another number, performing all the operations possible within the limits of this number. He has to see and keep in mind that—

$$1+1=2,\ 1\times1=1 \quad 1-1=0,\ 1\div1=1, \text{ etc.}$$
$$2+1=3,\ 3\times1=3 \quad 2-1=1,\ 2\div1=2, \text{ etc.}$$

The whole circle of operations up to 2 is exhausted before he goes on to the number 3, which is to be treated in the same way.

The first four processes are naturally connected, and will appear so in the child's mind.

If you take away 1 from 2, and 1 remains, the child in knowing this also understands implicitly the opposite process of adding 1 to 1 and its result.

Multiplication and division are, in the same way, nothing but another way of adding and subtracting, so that we might say one operation contains, and may be shown to contain, all the others.

"You must teach the child to know the numbers in some way or other," but "to know a number really means to know also its most simple relations to the number contained therein." Any child who knows a number and its relations, must be also able to perform the operations of addition and subtraction, etc., with it, as they are the direct result of comparing two numbers with each other. Only when the child can perform all these operations, for instance within the limits of 2, can it be supposed really to have a perfect knowledge of this number.

This seems to be a rational method and worthy of a trial; it has proved superior in practice to the methods in use.

A full exposition of this method, commonly known as the Grubé method, may be found in Beebe's First Steps Among Figures.

A knowledge of the process must precede any attempt to give a theory or to supply a rule. Theory, in fact, implies that the conceptions it embraces are already in the mind, and the rule is universal that it springs from or is based on practice. Processes before rules.

The process must be made clear by examples from experience, aided in every possible way by sensible representations, either objects, marks, or diagrams. When these have set forth the process, it should be made familiar by well-constructed examples to be worked mentally.

This, when a process is clear and intelligent, is a matter only of a memory, and depends on practice. The two things to be secured are *accuracy* and *rapidity*. These important habits may be established by a thorough knowledge of all the tables, and abundant practice in computation. Accuracy and rapidity.

To acquire facility in operation the teacher should require the pupils to bring in to the daily recitation a written analysis of one or two problems. The mechanical process also should be required, and the work should be neatly and correctly expressed. This work should be examined by the teacher, else the pupils will lose interest in its performance and become careless in the mechanical execution. Written analysis.

EXAMINE AND CROSS-EXAMINE THE PUPILS IN THEIR WORK, AND SEE IF THEY CAN GIVE A REASON FOR EVERY STEP.

SUGGESTIONS TO TEACHERS.

1. We cannot impress too strongly upon the teacher's mind that each lesson in arithmetic must be at the same time a lesson in language. As the pupil in the primary grade should be generally held to answer in complete sentences with clear and distinct articulation, so especially in arithmetic, the teacher should insist on fluency, smoothness and neatness of expression, and lay special stress upon the process of the solution of each example.

2. Teachers should avoid asking too many questions. Such questions, moreover, as by containing half the answer, prompt the scholar, should be omitted. The pupil should do the talking as much as possible.

Let the pupils do the talking.

3. No new numbers should be commenced before the previous one is perfectly mastered. It would be a mistake to suppose that in teaching according to this plan, memory is not required on the part of the child. Memory is an important factor here, as it is an all instruction. I say this boldly, though I know with some teachers it has become almost a crime to say that memory holds its place in education.

Memory a factor.

4. Analyses given by pupils are often redundant.

Redundant analysis.

Problem:—James had five cents and he found seven more; how many had he then?

First Step.—James had five cents and he found seven more; how many had he then?

Second Step.—He had as many as the sum of five cents and seven cents.

Third Step.—Five cents plus seven cents are twelve cents.

Fourth Step.—Therefore, if James had five cents, and he found seven more, he then had twelve cents.

In the above analysis, as it is given in many schools, the pupils have used fifty-one words. No business man in solving this problem would go through with this rigmarole. If the teacher repeats the problem it is not necessary for the pupil to repeat it. There is no objection to the pupil's reading the problem from the book.

The great object sought for in the study of arithmetic, is to develop and strengthen the reasoning powers.

It is a positive injury to require pupils to commit to memory simple arithmetical problems that are of no value whatever after the answer is attained.

The following analysis is to be preferred:

Since James had five cents, and found seven cents, he had the sum of five cents and seven cents, or twelve cents.

In this analysis we have used twenty-two words, instead of fifty-one. "Therefore," etc., at the close of a problem is unnecessary repetition.

Problem:—A boy having seven marbles, lost five of them; how many had he left?

First Step.—He had as many left as the difference between seven marbles and five marbles.

Second Step.—Seven marbles minus five marbles are two marbles.

Third Step.—Therefore, if a boy having seven marbles lost five of them, he has two left.

This is better:

Since a boy having seven marbles lost five of them, he had left the difference between seven marbles and five marbles, equal to two marbles.

Problem:—At seven dollars a pair, what will five pairs of boots cost?

First Step.—If one pair costs seven dollars, five pairs (or more frequently, five pairs which are five times one pair) will cost five times seven dollars.

Second Step.—Five times seven dollars are thirty-five dollars.

Third Step.—Therefore, at seven dollars a pair, five pairs will cost thirty-five dollars.

Say instead:

Since one pair costs seven dollars, five pairs will cost five times seven dollars, equal to thirty-five dollars.

Problem:—If a man laid out $100 for cows, and paid $20 for each one he bought, how many cows did he buy?

First Step.—If one cow cost $20, he bought as many cows for $100 as 20 is contained times in 100.

Second Step.—20 is contained in 100 5 times.

Third Step.—Therefore, if a man laid out $100 for cows, and paid $20 for each one that he bought, he bought 5 cows.

How much better to say:

He bought as many cows as $20 is contained times in $100, or 5 cows.

Concrete division.

Some meet with difficulty in analyzing problems in division, when they consist of concrete numbers. Division is finding how many times one number can be subtracted from another of the same kind.

Dollars can be divided by dollars and by nothing else; yards can be divided by yards and by nothing else; and so on for any other things that might be mentioned.

That dollars can only be divided by dollars arises from the fact that division is but a short process of finding how many times one number or quantity can be subtracted from another, and we can subtract only dollars

from dollars; therefore we can divide dollars only by dollars. Thus:

Divide $42 equally among 6 men. Now we cannot divide $42 by 6 men or by 6; but if we give each man a dollar, then that will require $6, and $6 can be subtracted from $42 seven times. Hence we can give each man a dollar seven times, or we can give $7 at one time.

After the operation is performed, we may call the 7, seven dollars; then the 6 will be a mere number, and thus, indirectly, we may divide $42 by 6.

Practically, however, all such operations are performed abstractly, as 42, 6, 7, taken as mere numbers.

The study and solution of examples and their discussion in the class involve the following points: Points to be emphasized.

1. Correct reading. Not one pupil in twenty reads a new kind of problem correctly the first time.

2. Examination preparatory to solution. A celebrated mathematician said that if his life depended on solving a complicated problem within an hour, he would give the first thirty minutes to studying it before putting down a figure.

3. Analysis and solution.

4. Reviewing, to see that there are no errors.

5. General correction by the rule of Common Sense. A mistake in pointing off may make a barrel of flour cost 70 cts. or $70, but the pupil's common sense should teach him that neither is possible.

Keep in mind the following cautions. Cautions.

1. Present single ideas, single facts and single difficulties.

2. Call up each point in the lesson frequently.

3. Teach simple processes.
4. Keep the mind active.
5. See that pupils get a clear perception of principles.
6. Fix and hold the attention.

Results.
- Mental discipline.
  1. Correct perception.
  2. Attention.
  3. Practice.
- 2. Practical business preparation.
  1. Accuracy.
  2. Expertness.
  3. Rapidity.
- 3. Preparation for advanced study.

Mental arithmetic.

The analysis of a problem is the same in mental as in written arithmetic. The difference is that mental arithmetic is limited to problems that may be performed mentally, without recourse to written symbols. It is a fact that those pupils who have been trained carefully in mental arithmetic take up the principles of higher mathematics more readily. The language used should be sufficient to render the solution of the example clearly intelligible to a listener, yet so brief as not to retard the process of mental calculation. Mental arithmetic should both precede and accompany the written arithmetic, step by step. In fact it would be much the better way to select a text-book that contained exercises in both mental and written arithmetic. In mental arithmetic the language should be clear, and the words enunciated distinctly. No hesitancy should be permitted—pupils should pass through the solution rapidly. Pupils should be required to construct original problems, and random exercises should be given by the teacher in addition, subtraction, multiplication, and division, to teach rapidity and accuracy in computation.

The teacher should give diversified problems of a practical nature to the class.

There is a great deal of perfectly barren mathematical knowledge in this country, particularly among those who have studied, not for knowledge, but for a certificate or a diploma. Practical application.

Not unfrequently do we meet teachers who can demonstrate problems in algebra and geometry, who at the same time cannot make the least application of them. Again, we have met teachers who have graduated at the higher institutions of learning, who have passed over the rules of arithmetic—finished the study—who would be unable to determine how many feet there are in a board 12 feet in length and 12 inches wide.

They seem to be unaware that the rules of arithmetic were ever intended for any practical purpose.

Knowledge, so confined and abstract, is of doubtful utility, even as a mental discipline. Theory and practice should be united, or we perceive nothing of the beauties of mathematics. "Detached propositions and abstract mathematical principles give us no better idea of true and living science than detached words and abstract grammar would give us of poetry or rhetoric." Small acquirements in mathematics serve only to make us timid, cautious, and distrustful of our own powers—but a step or two further gives us life, confidence, and power. Theory and practice.

Mathematics should not be studied merely for discipline. The object should be to understand the subject and make it useful. Those who teach with no other view than giving discipline to the minds of their pupils, never more than half teach. Mental discipline.

Let a person undertake the study of any science with no other object than discipline and the science will come to him with difficulty. But let him begin the study determined to understand it and avail himself of it, and the science will come to him with ease, and with it a discipline of mind, the most effective he can attain.

Logic of arithmetic.

In the application of arithmetic there are two distinct operations, the logical and the mechanical.

In too many schools greater attention is given to the mechanical. To some extent this is quite necessary, and pupils should be made very familiar with elementary processes; but after they become expert in computation, greater attention should be given to calculation, —the thinking. The undisciplined direct their attention more to the doing than to the thinking, when it should be the reverse; and nearly all the efforts of the good teacher are directed to making his pupils reason correctly. If a person fails in an arithmetical problem, the failure is usually in the logic, for false logic directs to false reasoning, and true logic points out true operations.

II. FRACTIONS.

Objects first.

It is well to introduce the study of fractions by objective teaching. For this purpose the best device is a series of equal spheres, of which one is whole, another is divided into halves, and the others into thirds, fourths, fifths, sixths, eighths, etc. These have been provided in what is known as Davis's Fractional Apparatus. A similar but less perfect device is a series of circles correspondingly subdivided. Most

teachers will have to make use of apples or other objects obtained without expense. Whatever is used, the following definitions should all be made so clear that every pupil can illustrate them by the objects employed.

Definitions.

The term UNITY in mathematical science is applied to any number or quantity regarded as a whole; the term UNIT in arithmetic, to any number that is used as the base of a collection.

Every number, whether integral or fractional, has the unit 1 for a primary base.

A quantity regarded as a whole, called a *unit,* is the *primary* base of every fraction.

One of equal parts of a unit called the *fractional unit,* is the *secondary* base of every fractional number.

The value of a fraction is the number of times it contains the unit 1.

The quantity or unit that is divided into equal parts is the *unit* of the fraction.

One of the equal parts is called a *fractional unit.*

In $\frac{3}{8}$ of a pound, 1 pound is the *unit* of the fraction, and $\frac{1}{8}$ of the pound the *fractional unit.*

A fractional unit or a collection of fractional units is a *fraction.* (Or a fraction may be considered one or more of the equal parts of a unit, these parts corresponding to fractional units.)

Two integers are required to express a fraction, one above a short horizontal line to denote the number of fractional units, called the *numerator;* it numbers, or expresses how many are taken. The other below the line, expresses how many fractional units it is divided into, and is called the *denominator;* it denominates or

names and expresses how many fractional units are equal to a unit.

The numerator and denominator taken together are called *terms of the fraction.*

Fractions are of three kinds, *common, decimal* and *duodecimal.* One or more of the equal parts of a quantity, expressed by two numbers, one written above the other with a line between them, is a *common fraction*— $\frac{3}{4}$, $\frac{5}{12}$ and $\frac{3}{5}$.

Its denominator is other than ten, or some power of ten.

A fractional number, whose value is less than a unit, is a *proper fraction,* as $\frac{2}{3}$, $\frac{6}{9}$. It is so termed because it expresses a value less than 1. An *improper fraction* is not properly a fraction of a unit, the value expressed being equal to or greater than 1.

A single fraction, either proper or improper, is a *simple fraction,* $\frac{4}{5}$, $\frac{6}{5}$.

A fraction of a fraction, or several fractions joined by of, is termed a *compound fraction,* as 2-4 of 7-8 of 3-12.

A fraction in the numerator, or denominator, or both, is termed a *complex fraction,* as $\frac{\frac{2}{3}}{\frac{4}{5}}$, $\frac{\frac{3}{4}}{\frac{6}{9}}$

Unity divided by any number is termed a *reciprocal;* thus the reciprocal of 4 is $\frac{1}{4}$.

An integral number added to a fractional number is termed a *mixed number,* as $3+\frac{4}{7}$, $7+\frac{2}{9}$. The sign of addition is usually omitted.

General Principles.

1. Multiplying the numerator increases the value of the fraction.

Because it increases the *number* of fractional units while the *value* of the fractional unit remains the same.

2. Multiplying the denominator decreases the value of the fraction.

Because it diminishes the *value* of the fractional unit, while the *number* remains the same; it diminishes the *value* of the fractional unit because the unit of the fraction is divided into a greater *number* of fractional units, and each fractional unit is as many times less in *value* as there are units in the multiplier.

3. Multiplying both numerator and denominator by the same number does not alter the value of the fraction.

Because it increases the *number* of fractional units, as many times as it decreases the *value* of the fractional unit; that is in the same ratio.

4. Dividing the numerator decreases the value of the fraction.

Because it diminishes the *number* of the fractional units, while the *value* of the fractional unit remains the same.

5. Dividing the denominator increases the value of the fraction.

Because it increases the *value* of the fractional unit, while the *number* remains the same; it increases the *value* of the fractional unit because the unit of the fraction is divided into a less number of fractional units, each fractional unit being as many times greater in *value* as there are units in the divisior.

6. Dividing both numerator and denominator by the same number does not alter the value of the fraction.

Because it diminishes the number of fractional units as many times as it increases the value of the fractional unit.

7. If the numerator be multiplied by any number, the number of fractional units will be *increased* as many times as there are units in the multiplier.

8. If the numerator be divided by any number, the number of fractional units will be *diminished* as many times as there are units in the divisor.

9. If the denominator be multiplied by any number, the fractional units will be *diminished* as many times as there are units in the multiplier.

10. If the denominator be divided by any number, the *value* of the fractional units will be increased as many times as there are units in the divisor.

Analysis of a fraction.

Naming the quantity or unit divided, the value of one of its fractional units, the number of fractional units, the denominator, numerator and the terms of the fraction, is to analyze a fraction. Thus:

Analyze the fraction $\frac{4}{5}$.

$\frac{4}{5}$ is a fraction because it expresses 4 of the equal parts of a unit. 1 is the unit of the fraction, or the unit that is divided to form the fraction. $\frac{1}{5}$ is the fractional unit, or one of the equal parts of the unit divided. 5 is the denominator; it names the parts; it shows that the unit is divided into 5 equal parts; it tells the size or value of each part. 4 is the numerator; it numbers the parts taken to form the fraction; it is written above the line. 4 and 5 are the terms of the fraction, and its value is $4 \div 5$.

PROCESSES.

Lowest terms.

Fractions are reduced to their lowest terms as follows:

Reduce $\frac{16}{20}$ to its lowest terms.

$$\frac{16 \div 4}{20 \div 4} = \frac{4}{5}$$

Dividing $\frac{16}{20}$ by $\frac{4}{4}=\frac{4}{5}$; as the numerator and denominator are prime to each other, the fraction is reduced to its lowest terms. This depends upon the following principal: Dividing both terms of the fraction by the same number does not alter the value of

the fraction, because the number of fractional units is *decreased* as many times as the *value* of the fractional unit is increased. (Deduce the rule.)

Improper fractions are reduced to integer or mixed numbers as follows: Reduction of improper fractions.

Reduce $\frac{125}{5}$ to an integeral number.

$\frac{125}{5} \div \frac{5}{5} = 25$, or 5) $\frac{125}{5} = \frac{25}{1} = 25$.

In 1 there are 5 fifths; in 125 fifths, as many ones as 5 is contained times in 125, or 25. This depends upon the following principle: Dividing both terms of the fraction by the same number does not alter the value of the fraction; the same reason as when we reduce fractions to their lowest terms. (Deduce the rule.)

Integers or mixed numbers are reduced to improper fractions as follows: Integers reduced.

Reduce $49\frac{2}{5}$ to fifths.

$\frac{5}{5} \times 49 = \frac{245}{5}$

$\frac{245}{5} + \frac{2}{5} = \frac{247}{5}$

In one there are 5 fifths; in 49 ones, 49 times 5 fifths, or 245 fifths; plus 2 fifths equals 247 fifths. This depends on the following principle: Multiplying both terms of the fraction by the same number does not alter the value of the fraction, because the number of fractional units is increased as many times as the value of the fractional unit is decreased. (Deduce the rule.)

Fractions are reduced to a common denominator as follows: Common denominator.

Reduce $\frac{3}{5}$, $\frac{3}{6}$, $\frac{4}{8}$, $\frac{15}{4}$.

$$\frac{3 \times 24}{5 \times 24} = \frac{72}{120}$$

$$\frac{3 \times 20}{6 \times 20} = \frac{60}{120}$$

$$\frac{4 \times 15}{8 \times 15} = \frac{60}{120}$$

$$\frac{15 \times 30}{4 \times 30} = \frac{450}{120}$$

The least common multiple of the denominators is 120; dividing the least common multiple by the denominator of the first fraction, we have the quotient 24; multiplying both terms of the fraction by 24, we have $\frac{72}{120}$. This depends upon the following principle: multiplying both terms of the fraction by the same number, does not alter the value of the fraction, because it increases the number of fractional units as many times as it decreases the value of the fractional unit. (The same analysis for the remaining fractions.)

Addition. Fractions may be added as follows:

Add $\frac{3}{4}$ and $\frac{2}{4}$.

$$\frac{3}{4} + \frac{2}{4} = \frac{5}{4} = 1\frac{1}{4}.$$

As the fractions have the same *fractional unit*, we may add the numerators; $\frac{3}{4} + \frac{2}{4} = \frac{5}{4} = 1\frac{1}{4}$.

Add $\frac{5}{8}$ and $\frac{6}{7}$.

As the fractions $\frac{5}{8}$ and $\frac{6}{7}$ have different *fractional units*, first reduce them to fractions having the same fractional unit. $\frac{5}{8}$ is equal to $\frac{35}{56}$; $\frac{6}{7}$ equal to $\frac{48}{56}$; now as the fractions are of the same *fractional unit* value, we may add the numerators: $\frac{35}{56} + \frac{48}{56} = \frac{83}{56} = 1\frac{27}{56}$. (Deduce the rule.)

Subtraction. One fraction is subtracted from another as follows:

Subtract $\frac{2}{5}$ from $\frac{3}{4}$.

$$\frac{2}{5} = \frac{8}{20}$$
$$\frac{3}{4} = \frac{15}{20}$$
$$\frac{15}{20} - \frac{8}{20} = \frac{7}{20}.$$

The fractions $\frac{2}{5}$ and $\frac{3}{4}$ have different fractional units. First reduce the fractions to the same fractional unit value. $\frac{3}{4}$ equals $\frac{15}{20}$; $\frac{2}{5}$ is equal to $\frac{8}{20}$; as the fractions are of the same *fractional unit* value, we may subtract one numerator from the other, giving us $\frac{7}{20}$. (Deduce the rule.)

Multiplication by an integer. Fractions are multiplied by an integer as follows:

Multiply $\frac{2}{16}$ by 4.

$$\frac{2}{16} \times 4 = \frac{8}{16} = \frac{1}{2}$$

$$\frac{2}{16} \div 4 = \frac{2}{4} = \frac{1}{2}$$

Multiplying $\frac{2}{16}$ by 4, by multiplying the numerator is equal to $\frac{8}{16}$ or $\frac{1}{2}$. This depends upon Principle 1. Multiplying the numerator increases the value of the fraction, because it increases the number of fractional units, while the value of the fractional unit remains the same.

Again, multiplying $\frac{2}{16}$ by 4, by dividing the denominator, is equal to $\frac{2}{4}$ or $\frac{1}{2}$. This depends upon Principle 5. Dividing the denominator increases the value of the fraction, because it increases the value of the fractional unit, while the number remains the same; it increases the value of the fractional unit, because the unit of the fraction is divided into a less number of fractional units, and each fractional unit is as many times greater in value as there are units in the divisor. (Deduce the rule.)

We multiply a whole number by a fraction as follows: Multiplication by a fraction.

Multiply 24 by $\frac{2}{3}$.

a. $\frac{1}{3} \times 24 = \frac{24}{3}$

$\frac{24}{3} \times 2 = \frac{48}{3} = 16.$

b. $\frac{1}{3}$ of $24 = 8$

$8 \times 2 = 16.$

c. $24 \times 2 = 48$

$48 \div 3 = 16.$

a. Once 24 is 24; $\frac{1}{3}$ times 24 is $\frac{24}{3}$; $\frac{2}{3}$ times 24 is 2 times $\frac{24}{3}$ or $\frac{48}{3} = 16$, Ans.

b. $\frac{1}{3}$ of 24 is 8; $\frac{2}{3}$, 2 times 8 or 16, Ans.

c. Multiplying 24 by 2 = 48; as the multiplier is three times too great in value, the product is three times too great in value. To give the correct value divide by 3, which gives us 16, Ans. (Deduce a rule.)

NOTE.—See that the pupil understands that $\frac{2}{3}$ of 1 is the same as $\frac{1}{3}$ of 2.

We multiply one fraction by another as follows:

Multiply $\frac{3}{7}$ by $\frac{5}{8}$.

a. $\frac{3}{7} \times \frac{8}{8}$ or $1 = \frac{3}{7}$.

$\frac{3}{7} \times \frac{1}{8} = \frac{3}{56}$.

$\frac{3}{56} \times 5 = \frac{15}{56}$.

$b.\ \frac{3}{7} \times {}^{5} = \frac{15}{7}.$

$\frac{15}{7} \times {}_{8} = \frac{15}{56}.$

a. $\frac{3}{7}$ multiplied by $\frac{8}{8}$ or $1 = \frac{3}{7}$; $\frac{3}{7}$ multiplied by $\frac{1}{8}$ is equal to $\frac{3}{56}$. Since $\frac{3}{7}$ multiplied by $\frac{1}{8}$ is equal to $\frac{3}{56}$, $\frac{3}{7}$ multiplied by $\frac{5}{8}$ will be equal to 5 times $\frac{3}{56}$ or $\frac{15}{56}$.

b. Multiplying $\frac{3}{7}$ by $\frac{5}{8}$ is the same as multiplying by the eighth part of 5. First multiply $\frac{3}{7}$ by $5 = \frac{15}{7}$; as the multiplier is eight times too great in value the product will be eight times too great in value; hence to get its required value divide $\frac{15}{7}$ by 8, by multiplying the denominator, which gives $\frac{15}{56}$.

Division by an integer.

We divide a fraction by an integer as follows:

Divide $\frac{6}{7}$ by 3.

$a.\ \frac{6}{7} \div 3 = \frac{2}{7}.$

$b.\ \frac{6}{7} \times 3 = \frac{6}{21} = \frac{2}{7}.$

Dividing $\frac{6}{7}$ by $3 = \frac{2}{7}$; according to the principal which says: Dividing the numerator decreases the value of the fraction, because it diminishes the number of fractional units, while the value of the fractional unit remains the same.

Again, dividing $\frac{6}{7}$ by 3, by multiplying the denominator is equal to $\frac{6}{21}$; multiplying the denominator decreases the value of the fraction, because it decreases the value of the fractional unit, while the number of fractional units remains the same; it diminishes the value of the fractional unit, because the unit of the fraction is divided into a greater number of fractional units, and each fractional unit is as many times less in value as there are units in the multiplier. (Deduce the rule.)

Division by a fraction.

We divide a whole number by a fraction as follows:

Divide 8 by $\frac{3}{5}$.

$a.\ \frac{5}{5} \times 8 = \frac{40}{5}.$

$\frac{40}{5} \div \frac{3}{5} = 13\frac{1}{3}.$

$b.\ 8 \div 3 = 2\frac{2}{3}.$

$2\frac{2}{3} \times 5 = 13\frac{1}{3}.$

a. In one there are $\frac{5}{5}$; in 8, 8 times $\frac{5}{5} = \frac{40}{5}$; $\frac{40}{5}$ divided by $\frac{3}{5} = 13\frac{1}{3}$.

b. Divide 8 by $\frac{3}{5}$, or the fifth part of three; dividing 8 by 3 gives us $2\frac{2}{3}$; now as the divisor is five times too great in value, the quotient is only one-fifth of its required value; to get its required value; multiply the quotient by five, which gives us $13\frac{1}{3}$. (Deduce the rule.)

We divide a fraction by another fraction as follows:

Divide $\frac{9}{4}$ by $\frac{2}{3}$.

a. $\frac{3}{4} \times 3 = \frac{9}{4}$

$\frac{9}{4} \times 2 = \frac{9}{8} = 1\frac{1}{8}$

b. $\frac{3}{4} \times 2 = \frac{3}{8}$

$\frac{3}{8} \times 3 = \frac{9}{8} = 1\frac{1}{8}$

c. $\frac{3}{4} = \frac{9}{12}$

$\frac{2}{3} = \frac{8}{12}$

$\frac{9}{12} \div \frac{8}{12} = 1\frac{1}{8}$

a. 1 is contained in $\frac{1}{4}$, three-fourth times; $\frac{1}{2}$ is contained in $\frac{2}{4}$, three times $\frac{3}{4}$, or $\frac{9}{4}$ times; $\frac{2}{3}$ will be contained in $\frac{9}{4}$, $\frac{1}{2}$ of $\frac{9}{4}$, or $\frac{9}{8}$ times.

b. Dividing $\frac{9}{4}$ by 2 gives us $\frac{3}{8}$; as the divisor is three times too great in value, the quotient is only $\frac{1}{3}$ of its required value; multiplying the quotient $\frac{3}{8}$ by 3 gives us $\frac{9}{8} = 1\frac{1}{8}$.

c. Reduce $\frac{9}{4}$ and $\frac{2}{3}$ to a common denominator. $\frac{9}{4}$ is equal to $\frac{27}{12}$; $\frac{2}{3}$ is equal to $\frac{8}{12}$; $\frac{27}{12}$ divided by $\frac{8}{12}$ is equal to $\frac{9}{8}$ or $1\frac{1}{8}$.

III. GENERAL REMARKS.

It is not expected in a manual for teachers to explain every rule in arithmetic. A few rules have been carefully explained and illustrated in detail; and these are suggestive only. The plan of this work has been to give a course of reasoning leading to those conclusions from which rules are drawn,—and this is given in language free from technicalities, and easy to be understood.

Suggestive analyses.

The explanations are so given as to put the pupil into the place of the original reasoner, until he arrives at a

conclusion from which he can deduce the rule for himself.

Exactness in language.

After the pupils are familiar with the process and have received sufficient drill, they should be taught to analyze problems. The teacher should see that the analysis is thoroughly understood and accurately recited. Pupils should be required to write out an analysis, and the pupil that presents the most simple and concise analysis should write it on the board, subject to the criticism of the class. See that the language is used correctly; that it tells "*the truth, the whole truth, and nothing but the truth.*" Now you may if you choose require every member of the class to commit this approved analysis verbatim, for it will mean something to them.

There are teachers who allow a wide range in the forms of analysis as long as the language is good and the reasoning logical. While we should insist upon the development of *individuality* and *originality* on the part of the pupils, yet, as mathematics is an exact science, the *language used in the analysis should be exact.*

I cannot see how language may be cultivated if the teachers allow a wide range in the use of words; I call that the *best analysis* which is the most simple and concise.

Analysis more than description.

It is very common for the pupil to suppose that to explain an example simply means to state what operations—what processes—are performed in reaching the results. Hence, he will consider it an unreasonable question if asked why he added or subtracted, multiplied or divided.

Such an explanation should never be accepted. To explain a problem, means to assign a reason for each of the several steps. I have heard the following given as an analysis to a problem in division of fractions:

Divide $\frac{3}{4}$ by $\frac{2}{3}$.

"Invert the terms of the divisor and proceed as in multiplication."

The rule tells *how* to solve the problem; the analysis gives the *reason* for each step.

A large number of pupils who pass through the entire arithmetical course in our best schools fail to make application of their knowledge. This is owing to a lack of practical application of the rules. For example, let them measure the school-room, find out the area, measure the yard, fields, etc.; in all the tables make a practical application at the time. Practical work.

Too much time is wasted in solving problems in continued addition, multiplication, division; I have known a class to linger a week upon casting out the 9's in addition. All such subjects as these and many others, like circulating decimals, true remainder, foreign exchange, alligation, algebraical and geometrical problems, should be omitted in our public schools. By those who wish to pursue advanced studies, the subjects quoted may be studied; but, as a majority of the pupils leave school at the average age of twelve years, they should be drilled upon the subjects that they will be obliged to use through life.

Pupils should be put to the *test* in many ways; the skilful teacher will not only examine the pupils, but cross-examine them. The teacher should call for original problems; should encourage Frequent tests.

variety of solutions; should never leave a subject until the pupils are able to make ready application of it.

Business forms.

Pupils should be made familiar with the simplest forms of commercial paper; should be able to write a negotiable note, to cash interest upon notes where partial payments have been made, to find the profit and loss upon articles bought and sold. When practicable bring in real notes given and held by men whom the pupils know. No subject is fully mastered by the pupil until he is able to make use of it in this manner.

Whatever text-books are used, many outside problems should be given. Among the books of problems published the best are "The Regents' Questions from the first examination in 1866 to June, 1882, being the Questions in Arithmetic, Geography, Grammar, and Spelling for the preliminary examinations for admission to the University of the State of New York, prepared by the Regents of the University, and participated in simultaneously by more than 250 academies, forming a basis for the distribution of more than a million of dollars." Complete with Key. Cloth, 16mo, pp. 473. $2.00. "The Regents' Questions in Arithmetic only," in book form, 25 cents.; Key 25 cts.

GEOGRAPHY.

Geography acquires its full value as a branch of education only when it loses the character of an accumulation of facts, undigested by the child's mind, and becomes real in his memory, linked by association with the world of thought and action which immediately surrounds it or that which is within it.

Tell the child to observe the lines of the map which hangs perpetually before his eyes, and talk to him only of the names upon it, and you will soon weary his attention; but speak to him of the living men who inhabit that country,—tell him of their stature and aspect and dress, and ways of life, and of their forms of worship; speak of its climate—of the forms of vegetable and animal life with which his eye would be conversant if he dwelt there—of trees and flowers, and you excite him to a new life.

Make it real.

FIRST STEPS IN TEACHING GEOGRAPHY.

I. Talk about the earth as a whole—of what it is composed and what may be found upon it.

The heavens catch the child's attention early, and he wishes to know about the sun, moon and stars. He has a general knowledge of the earth; he has learned something about land and water, varieties of surface, the location of places, vegetable

Observation first.

products, natural and cultivated, and the animal and mineral kingdoms.

These things may be said to comprise the elements of geographical study; and they may be made the subject of direct study by the children.

With these, the study of geography may begin *not by learning words from a book*, but by *actual* observation, guided by the oral instruction of the teacher.

The earth in space.

In teaching the first step in geography, explain to the children that the sun, moon and stars are large balls, and that they resemble the ball we live upon. Tell them that we call this ball the earth, and "the earth hangeth upon nothing," floating free in space like a bird in the air. To excite the pupils' curiosity, and give them a correct idea of the form of the earth, blow a few soap-bubbles before them, and let them float in the air. Tell them that a body of the shape of a ball is called a globe or a sphere. Talk about the outside of different objects and tell them that the outside of an object is called the surface. The outside of the earth is called the surface of the earth.

Use of soap-bubbles.

The immense magnitude of the great globe they cannot as yet imagine; at first be content to see that they understand its form and motion.

Land and water.

Let the children see that if they should walk on the earth a certain number of hours or days in any direction, they would come to the water. They will now see that the surface of the earth is composed of land and water.

Tell them the fact that one-fourth of the earth's surface is land and three-fourths is water.

Now explain to the child the figures on the globe; point out which is meant for land, which for water; and show him his own country.

Draw an oblong figure upon the board and divide it into four parts, let three parts represent the water and one part the land. Draw a circle upon the board and let three parts represent the water and one part the land. Use colored chalk. The illustrations will tend to impress the correct ideas on the mind. "Happy illustrations excite curiosity." Colored crayon.

Now, on looking at the globe, the first thing that must strike every one is, *how much more water there is on it than dry land.* Tell the children that we may ride for days and weeks on water and not see any land.

Let them see how very unequally the land is arranged; instead of being spread evenly all over the surface, it is collected together, some portions very large and some very small. Let them see the roughness of the fields and roads and hills, not to speak of the high mountains or depths of the sea.

In the foregoing account we have spoken of the earth as a sphere, or a globe, or an exactly round ball. But this though practically true for our purpose, is not strictly correct, for the earth *is not exactly round.* You can see it is not. On so big a ball as the earth however, these things do not count for much. The earth, although so large, so many miles around it, may be travelled over—we can go around it. A train of cars at the rate of 40 miles an hour would pass around the earth in about 26 days. Shape and size.

Now, ask the children what may be found upon the

Matter. surface of the earth? They will give names to the different kinds of matter, such as trees, shrubs, plants, rocks, and horses, cows, etc.

Let them see that the different things named may be classified. Tell them to name the diffent things found within the earth that do not grow, as iron, lead, gold, silver, rocks, pebbles, sand, etc. Tell that these objects belong to the *Mineral Class.*

Divisions of matter.

Tell them to name the things only that grow out of the earth: as trees, plants, shrubs; the different kinds of trees, plants and shrubs. Tell them that these objects belong to the *Vegetable Class.*

Tell them to name the animals that are found on the land, in the water, and in the air. Tell them that these objects belong to the *Animal Class.*

Ask the children which class they belong to, and tell them wherein they differ. That plants grow, breathe, take food and die. That brutes do the same; but that men differ in that they all possess a mind and a soul.

Review. Now they have learned:

1. The earth is a large ball or sphere.
2. Its surface is composed of land and water; one-fourth is land and three-fourths are water.
3. Minerals, vegetation and animals are found upon the earth.

II. Give instruction upon the relative position of objects and places.

Draw their observation to relation, position or place, beginning with the situation of the things which they see around them, and the distances of these from each other. Question the children as to the position of objects before them, and lead them

Relative position.

to describe how they are placed with regard to each, as above, below, on this side or that side, etc. The teacher should represent the positions of these objects on the board and requets the pupils to copy the represention on their slates. These exercises will prepare them to appreciate the value of the map. Proceed with fixed divisions of space. Make clear the limits and form of its boundaries.

Study the position of objects and places in regard to absolute and relative distances. Make the school the first division of space. Map with accuracy all the things learned, and have the pupils reproduce the representations.

III. Give the children a knowledge of the cardinal points of the compass in their use in geographical description.

Points of compass.

When children have been accustomed to determine the relative position of objects, they must be let to consider *places* in the same point of view; and to this end they should be made acquainted with the use of the several points of the compass.

Let the class face the North. Ask them to point where the sun rises and where it sets. Tell them that the place in the heavens where it rises is called the *East* —that in which it sets, the *West.* Excite them to observe, both at home and at school, that the sun rises in the East and sets in the West.

Close the lesson by a simultaneous repetition.

"That direction in which the sun rises is called the East; and that in which it sets, the West."

Begin the next lesson with a repetition of the preceding one. Call on the children to place themselves with

their right hand to the East and their left to the West, and then tell them that the point directly before them is the North, and that directly behind them the South.

Ask them to repeat together, "If we stand with our right hand to the East and our left hand to the West, the point directly before us is the North, and that directly behind us the South." Ask the pupils to face the East, the South, the West and the North. Let the children place a stick or draw a line with the chalk on the floor, in the direction of North, South, East and West.

In such exercises the object is to occupy only so much time upon each new idea as may suffice to *fix* it in the mind. A figure should be drawn on the board representing the compass, or better still a small compass should be exhibited. The teacher should see to it that the children are firm on one step of the ladder of knowledge, before they proceed to another, and not weary and disgust them, by keeping them too long on one subject.

Semi-cardinal points.

When we wish to represent the situation of different places on paper or on a slate, we call the top North, the bottom South, the right hand East and the left hand West. The teacher writes the four cardinal points on the board. But are things or places always *exactly* at the North, the South, the East or the West? Where may they be? They may be between any two of these points. A point half way between North and East is Northeast. What do you think half way between North and West is called? Develop the other semi-cardinal points in the same way. Drill upon the above facts. Draw a square at the board

and let the children mark and tell the cardinal and semi-cardinal points.

Draw a circle on the board and mark off the principal and intermediate points.

Let the teacher draw the outline of the room on the floor in chalk, and mark the position of objects within it, and when a map of the room is substituted, place it first in a horizontal position. Mapping the room.

Let the pupils place the different articles in the room along the northern, the eastern, southern, and western boundaries.

Require them to draw the room according to the same scale, and mark the relative positions of the objects.

Let them measure the length of the school room by a foot measure; see that it is correctly done.

Let the children see that we cannot represent the dimensions of the room on the board by using the scale of feet, but that we must use the scale of inches. Now let one foot of the room be represented by one inch on the slate or board. If the room is twelve feet long, how many inches shall we make our line on the slate? *Twelve.* Proceed in the same manner until the children obtain a correct idea of a scale. For example, the inch, the foot, the yard, the rod, and the mile. Scale of representation.

Teach the location of streets and the direction of them; the public building, etc. Let the children see that in geography we need not say top and bottom, right and left, but we call them north, south, east and west. When you are in front of a globe or map, the top is north, the bottom Mapping the neighborhood.

is south, the right hand is east, and the left hand is west.

IV. Give instruction and drill upon geographical definitions.

Land divisions.

Draw an irregular figure on the board representing one of the divisions of the earth,—say South America. In drawing the coast, (that is, a rib or side—the edge of the land near the sea,) make the projections and indentations *prominent,* so that we may be able to use the figure to give the children a correct idea of the shape of land and water divisions. The larger figure will represent one of the mainlands of the world, as distinguished from islands, which, though large, are still evidently surrounded by the sea; and it is called a *Continent.*

A prominent projection of land from the coast,—not quite an island, not quite surrounded by the water, is called a *Peninsula.* It projects from the mainland or body, and generally is quite narrow at the point of projection and gradually widens. Where there is a Peninsula there ought to be an Isthmus, which is a neck of land connecting it with the mainland.

Proceed in the same manner to develop all the land divisions. Continue the drill until all the children understand what is meant by the terms used—such as *Continent, Peninsula,* etc.

Let the children draw many figures until they are perfectly familiar with all the land divisions.

Water divisions.

Let the children see that all the water of the earth belongs to one great ocean, sometime called the sea. Tell them that the ocean is the largest body of water. Talk to them about the extent

of the ocean, what is found within its waters, and the great thoroughfares of commerce.

Draw a figure with a prominent indentation in the coast, and let the children see that a recess in the coast is called a Gulf or Bay. The gulf is usually the narrower and deeper, and the bay the broader and more open of the two. In fact, the words are used without exactness of distinction.

A narrow passage of water between two continents, not very deep, is called a Strait. A *Sound* is also a narrow passage of water between two continents or islands, but much deeper. All of the water divisions may be represented on the board in such a manner as to convey correct impressions. Develop all the terms in the same manner.

The teacher should not be content until these terms are thoroughly understood and mastered. The object of them all is to teach the pupils about the earth, and they are of no use if they do not do that. Get the pupils into the habit of looking at the country itself, finding out all the ideas they can and what they all mean. Home illustrations.

The most important spot for us all in this and many other respects is our homes. What sort of a country is it? What about its hills and mountains; its valleys and plains; its resources and thoroughfares? Can you answer all these questions? It is that sort of inquiry, begun at your own home and gradually inclining to other countries and scenes till you know all about them, that is the useful part of the great science of man and nature of which Geography is an important part. Keep

your eyes open, and you will see something to study every day of your life.

General suggestions.

The first study of geography shall be based as far as possible upon what the pupils can see about them. Upon this basis they are prepared to advance to the study of what they cannot see but must take from description—this is the law of development.

I. Teach direction, and apply it to the school house and immediate surroundings.

II. Teach dimensions, especially the smaller denominations, with frequent tests. Direction and dimensions are essential to conception of space and distances in space.

III. Proceed with fixed divisions of space. Make clear the form of its boundaries.

Study the position of things within the space in regard to distances and directions. Make the school room the first division of space. Map with accuracy all the things learned; have the pupils reproduce the maps.

IV. Take the school-house grounds as the second division of space and apply the preceding principles; thence in succession the district, the township, the county, the State, the nation, the world.

V. Study the vegetation, the animals, and the minerals of the smaller spaces. Give names and uses, distinguishing the wild animals and vegetation from those which are cultivated.

VI. Study the occupations and the trades of the people.

VII. Study the manufactures and the forces employed in driving the machinery.

VIII. Study the commerce and the transportation.

IX. Study the social, religious, and political organizations.

The above may be all taught objectively, for examples of them come within the perception of every ordinary child, if he be but taught to use it.

This local geography should be studied thoroughly before undertaking the general study of the world; it gives the basis of understanding the subjective treatment. Thus:

X. Study the form, size, and position of the earth.

XI. Study its surface in respect to land and water and their relations.

XII. In studying particular divisions pursue a natural order, viz.: outlines, surface, climate, vegetation, minerals, animals, nations.

Map-drawing.

In Map-Drawing the following suggestions may be offered:

1. Begin with the school-room and draw a plan of it on the board.

2. Draw around it the plan of the yard.

3. Let the children measure the dimensions of the room and the yard, and draw the plan to various scales.

4. Draw a map of the neighborhood, village, city, etc.

5. Let the pupils indicate the various streets, public buildings, etc.

6. GIVE THOROUGH DRILL.

Caution.

The geography often taught is not true geography; it is a miserable hotch-potch of insignificant fragments, and is utterly unworthy the great name it bears and the time it occupies. Gigantic facts, magnificent generalizations, splendid speculations, in-

volving, as they do, the mightiest problems in several of the other sciences, are certainly not fitting food for little children's minds. Their imaginations are confounded at its first propositions. The huge round world, swinging unsupported in limited space, and wheeling with an inconceivable velocity along its trackless orbit, parcelled into vast expanses of continent and still vaster oceans, and peopled with a billion of human beings; what a conception is this to offer to a little child! Picture it, explain, illustrate it as we will, it still remains a great mystery of which nothing is learned but the vaguest ideas. Nor are its later problems less difficult than these first and fundamental notions. The alternations of day and night, with their varying lengths in different latitudes and different seasons; the variety and succession of the seasons and their relation to climate; the precession of the equinoxes; the movements of the tides; the flow of the oceanic currents; the sweep of the winds; the great laws of climate; the geographical distribution of plants and animals, and the migrations and varying civilizations of the human race;—these surely are not questions for mere tyros in learning and novices in study to solve.

II. ADVANCED GEOGRAPHY.

In Advanced Geography facts have to be classified, generalizations to be made, laws to be discovered and the connection of causes and effects to be established. It is now clearly understood that the most profitable way of teaching the geography of a country is to take up its *physical features first*, and then the facts which depend upon them. To be made

Physical features first.

acquainted with the physical features of a country is as necessary to a geographer as the knowledge of the bones and great blood vessels of the human frame is to the anatomist. In order to understand the real geography of a country,—its organic structure, so to call it, the form of its skeleton—that is, of its hills; the magnitude and course of its veins and arteries,—that is of its streams and rivers, one should conceive it as a *whole* made up of connected parts; and then the position of man's dwellings, viewed in reference to these parts, becomes at once easily remembered, and intelligible.

Blackboard and maps.

The use of the blackboard in teaching geography is now general. Its relation to the use of maps is better understood than it was. It furnishes the means of exhibiting any portion of a map on a larger scale, and bringing out prominently any feature that may be required,—maps often confusing because so crowded.

Colored crayon.

By means of colored chalk, the separate classes of facts may be kept distinct and their relation more clearly shown. All facts presented to the eye are impressed on the mind. "The faithful sight engraves the knowledge with a beam of light."

In the treatment of this subject, we associate Physical and Political Geography as *inseparable*—as one subject;—with this fact overlooked geography becomes a mass of meaningless details, without either cause or correlation, while its study degenerates into mere rote work. We take as an illustration the study of a single division.

Study of North America.

I. Position.

1. North America is in the Western Hemisphere.
2. It is the Northern Grand Division.
3. It is found in the New World.

II. Extent.

1. It extends from the Arctic Ocean almost to the Equator.
2. It is about 4,800 miles in length.
3. It is about 3,000 miles in width.
4. Its area in square miles is 8,929,660.
5. It is double the size of Europe, but only one-half as large as Asia.

III. Form.

1. In form this Grand Division is triangular.

IV. Outline.

1. Its outline is irregular.
2. The projections and indentations are prominent.
3. The Northern coast is the most irregular.
4. The Atlantic seaboard is much more indented by bays and gulfs than the Pacific coast.
5. These inbreakings furnish good harbors, and this is a commercial advantage.

V. Coast.

1. The principal projections from the Northern coast are the Peninsulas of Labrador, Melville and Boothia. The principal capes are Cape Charles, Cape Chidley, Cape Bathurst, and Cape Barrow.

Northern coast.

2. The principal indentations are Hudson's Bay, James Bay, Ungava Bay, and Coronation Gulf.

3. The adjoining islands are Southampton, Fox Land, Prince William's Land, Prince of Wales, Prince Albert, Melville, and Grinnell's Land.

4. The commercial advantages are limited.

Eastern coast.

1. The principal projections from the Eastern coast are Peninsula of Nova Scotia, Cape Cod, Cape May, Cape Charles, Cape Henry, Cape Hatteras, Cape Lookout, Cape Canaveral, and Peninsula of Yucatan.

2. The principal indentations are the Gulf of St. Lawrence, Bay of Fundy, Massachusetts Bay, Cape Cod Bay, Long Island Sound, Narragansett Bay, and Chesapeake Bay.

3. The adjoining Islands are Newfoundland, Cape Breton, Martha's Vineyard, Nantucket, Long Island, Bermuda, Bahama, and the West Indias.

4. The commercial advantages are unlimited, since the Atlantic seaboard lies nearest the great markets of the Old World.

Southern and Western.

1. The principal projection from the Southern coast is the Peninsula of Florida; from the Western coast, Corrientes, Cape St. Lucas, Peninsula of California, Cape Mendocino, Cape Flattery, and the Peninsula of Alaska.

2. The principal indentations are the Gulf of Mexico, Bay of Campeche, Bay of Honduras, Gulf of California, San Francisco Bay, Gulf of Georgia, Bristol's Bay, and Norton Sound.

3. The adjoining islands on the Western coast are Vancouver's, Queen Charlotte's, Sitka, Kodiak, and Aleutian.

VI. Straits.

1. The straits on the Northern coast are Davis Strait, Hudson's Strait, Frobisher's Strait and Banks Strait; on the Eastern coast, Strait of Belleisle and Florida Strait; on the Western coast, Strait of Juan de Fuca.

2. The commercial advantages are limited; few harbors are found on the Southern and Western coasts.

VII. Relief.

1. The vertical configuration of the continent or island—that is, its elevation as a whole—varied by plains, table lands, mountains and valley, is called its relief.

The relief may be said to consist of elevations and depressions.

The forms of relief are exceedingly varied; the elevations when they reach or exceed 1000 feet are called *plateaus* or *table lands;* when less than 1000 feet, are called *plains* or *low lands;* the term *hill* is applied to ridges less than 2000 feet in elevation.

A knowledge of the reliefs of continents is of the utmost importance.

A difference in altitude of no more than 350 feet, is sufficient to produce a change of temperature of one degree, being equivalent to a difference of seventy miles in latitude.

Again, the relief of a continent controls its drainage, shaping the river basins and directing the course of the rivers, and influences to a certain extent the direction and character of the winds and the distribution of rivers.

VIII. Common Features of Continental Relief.

Structure of continents.

According to the theory of modern geographers there are *six* continents. There are certain grand features common to all—a peculiar combina-

tion of mountain systems, plateaus, and plains. Each continent has upon one side of the centre a great mass of elevated lands, usually extending throughout its entire length, and constituting the *primary feature* of its structure. On the opposite side is found a smaller and less elevated mass extending through a part of the continent and constituting the *secondary feature* of the continental structure. Between the *primary* and *secondary* elevations is a central depression, which forms the *third feature* common to all continents.

These elevated masses are sometimes called the *main* axis and *secondary* axis of a continent. There is a marked unity of structure—one common plan pervading all the continents. In each of the two Americas, the main axis extends through the entire length of the continent. The *main* axis lies near the Western shore; the *secondary* axis near the Eastern. Very low plains occupy the interior; but the plains on the seaward slope of the axis are of only limited extent. Axes.

IX. Surface.

The surface of North America is naturally divided into five parts: 1. The Western or Pacific Highland; 2. the Low Central Plain; 3. the Eastern or Atlantic Highland; and 4. the Pacific and Atlantic Slopes.

1. The Pacific Highland, or Great Plateau Belt, which forms the primary feature of North America, occupying almost all of the Western half of North America, extends from the Rocky Mountains to the Sierra Nevada. Pacific Highland.

This region consists of a vast plateau, surmounted by two lofty mountain systems, the Rocky Mountains on

the East and the Sierra Nevada and Cascade ranges on the West, with numerous shorter parallel ranges lying between them. The breadth of the plateau between the Rocky Mountains and the Sierra Nevadas is not less than 600 miles, and the more Northern portions have a breadth of about 300 miles; the plateau is quite low in the North, but rises gradually as it extends to the South. The elevation increases, through a succession of swells and depressions, from 800 feet near the Arctic shore to 8000 feet in the table-land of Mexico, whence it decreases rapidly Southward.

The Rocky Mountains form the main watershed in the United States, and feed five of the largest rivers,—the Missouri, the Rio Grande, the Colorado, the Columbia, and the Yukon. This highland includes the basins of the Columbia and the Colorado rivers, and between them the Great Basin of Utah.

The Pacific Plateau extends from the Rocky Chain on the East to the Sierra Nevada and Cascade Mountains on the West. The Eastern slope is short and abrupt, its base resting upon the plateau, which is from 2,000 to 4,000 feet in elevation. The Western slope is long and gentle, descending into extensive valleys which are but little above the level of the sea.

Low mountains called the Coast Range lie between these border chains and the Pacific Ocean. The Coast Range North of Cape Flattery is broken into a series of islands. The Rocky Mountains rise to a height of 8,000 feet above the surrounding country; they are from 12,000 to 15,000 feet above the sea level.

2. *a.* The Atlantic Highlands form the secondary feature of the continent, and they extend from the Northern coast of Labrador nearly to the Gulf of Mexico, approaching, but not meeting the Western Highlands on the South. This region consists of the plateau of Labrador, with the Laurentide Mountains on the North of the St. Lawrence, and the Appalachian System and the adjacent low plateaus on the South.

Atlantic Highlands.

b. The Labrador Plateau is about 2,000 feet in elevation, and the Laurentide Mountains are rarely above 4,000 feet.

c. The Appalachian region is composed of a succession of low, parallel mountain ranges, separated by long, trough-like valleys; and a plateau about 2,000 feet high, which descends gently from the crest of the westernmost range towards the interior of the continent.

The average height of the mountain chain is about 3,000 feet. The highest peaks are from 6,000 to 6,700 feet in elevation. It has very little table-land.

3. *a.* The Low Central Plain lies between the two highlands of the continent which, with but slight variations of level, stretch from the Arctic shores to the Gulf of Mexico. A slight swell near the centre, designated the Height of Land, separates it into two parts, one descending northward to the Arctic Ocean, the other southward to the Gulf. This swell which connects the Atlantic with the Pacific highlands, is from 1,000 to 2,000 feet above the level of the sea. The Central Plain is formed by the long, gentle slope descending eastward from the base of the Rocky Mountains.

Low Central Plain.

b. On the South their intersection is marked by the position of the Mississippi River. On the North a broad low swell, approximately parallel with the Rocky Mountains, extends from Lake Superior to the Arctic Shores, separating the Northern plain into two vast basins.

c. The Western basin, which is narrow and elongated, is connected with the Eastern by a break in the dividing swell, through which the Nelson River flows to Hudson Bay. The Eastern basin, which is more expanded, is partly below the level of the sea and covered by the waters of the Hudson Bay.

d. A series of remarkable depressions, occupied by the great lakes of the Mackenzie and Saskatchewan river systems,—Great Bear, Great Slave, Athabasca and Winnepeg—marks the intersection of the northern swell with the slope from the Rocky Mountains.

e. On the Height of Land, near its junction with the northern swell, are three vast depressions, diverging from a common centre, with a depth reaching considerably below the level of the sea. These are filled by the waters of the great lakes—Superior, Michigan, and Huron.

Similar, though less extensive, basins in the St. Lawrence valley are occupied by lakes Erie and Ontario.

f. The Central Plain consists of two immense slopes, —the Northern being the Arctic Plain, the Southern the Mississippi Valley.

g. The Mississippi Valley occupies one-half of the entire area of the United States. The surface is undulating; parts are hilly; on the whole, the surface is that of a plain, with slopes toward the centre from off the

two highland regions and a general slope from the height of land Southward to the Gulf of Mexico.

h. The Plains.—The name of the Plains is given to a section of the country extending a considerable distance to the Eastward of the Rocky Mountains. It may be called a sloping plateau; there is no well defined limit at which the name of plateau must be exchanged for that of a plain.

4. THE PACIFIC SLOPE extends from the crest of the Sierra Nevada and the Cascade Ranges westward to the Pacific Ocean. Its average width is about 150 miles. Between these ranges and some lower elevations along the coast is enclosed the great California Valley. Pacific Slope.

5. THE ATLANTIC SLOPE extends from the Alleghany Mountains to the Atlantic Ocean. It varies in width according as the mountains approach or recede from the sea coast. Upon the New England coast of the United States it is about 50 miles in width; at the mouth of the Hudson River, it varies to a mere strip of coast; it broadens southward to a width of 300 miles. Atlantic Slope.

The teacher should take up the rivers, lakes, climate, etc., as the next subject in order for study, based upon the following order, viz. :

X. Rivers.

1. Classification by river-systems.
2. Description of particular rivers.
   a. Length and size.
   b. Availability for navigation.
   c. Availability for water-power.
3. (Rivers of the particular locality.)

XI. Lakes.

1. Description.
2. Uses.
   a. As yielding fish.
   b. For navigation.

XII. Climate.

1. As determined by latitude.
2. As modified by particular causes,—altitude, proximity to the sea or the great lakes, winds, etc.
3. (At the home of the pupil,—local geography.)

XII. Natural Advantages.

1. (At the home of the pupil,—local geography.)
2. On the surface of the earth.
   a. Nature of the soil with reference to agriculture.
   b. Forests,—nature and uses of the woods.
   c. Facilities for transportation afforded by the sea, rivers, lakes, etc.
3. Within the earth.
   a. Useful minerals and metals—as coal, building material, iron, copper, lead, etc.
   b. Precious metals,—as gold and silver.
4. In the waters.
   a. Sea fisheries.
   b. Lake and river fisheries.

XIV. Industries, or Occupations.

1. Agriculture.
   a. Relative importance among the industries of the State.
   b. The crops raised.
   c. Statistics of crops.
   d. Cattle, sheep and hog raising.
2. Manufacturing.
   a. Relative importance.
   b. Articles produced.
   c. Statistics of manufactures.

3. Mining.
   a. Metals or minerals found.
   b. Mines, to what extent worked.
4. Lumbering.
   a. Locality of the forests.
   b. Description of the method.
5. The Fisheries.
   a. Locality of the fisheries.
   b. Kinds of fish taken.
6. Commerce.
   a. What is exported.
   b. What is imported.
   c. Means of transportation.

XV. Internal Improvements.

1. Railroads.
   a. Local railroads.
   b. Trunk-lines.
2. Canals.
3. Navigation on lakes and rivers.

After this subject has been taught objectively and fully illustrated, it should be tabulated on the board and the pupils be required to recite topically.

They should name every important item connected with the relief, and the teacher should require compositions in which the tabulation is used as an outline.

It is expected that after the subject is taught objectively all the divisions will be tabulated in a similar manner.

In early editions we gave a special treatment of the geography of the State of New York This we now discontinue, as something similar is given in the State editions of most modern geographies.

Those who desire specimens of the treatment of local geography, can obtain for 25 cents each Bardeen's "Geography of On-

ondaga County," or Northam's "Geography of Lewis County," and of "Oneida County," all of New York. Similar pamphlets have been prepared in other sections of the country. For general study we recommend Griffin's "Topical Geography, with Methods and Supplementary Notes," 50 cts. More elaborate treatises are Parker's "How to Study Geography, "$1.50, and Frye's "The Child and Nature, or Geography with Sand Modelling," $1.00.

PHYSICAL GEOGRAPHY.

The special province of Physical Geography is the investigation of Climate and its modifications.

The great agents are the air, rain, frosts, springs, brooks, rivers, glaciers, icebergs, mountains, and the sea.

It is Climate, and Climate alone, that determines mainly the character of all vegetable and animal life.

Climatic agents not only are now the most important and influential, but they have been so during all past geological ages. To account for all of the extraordinary changes of Climate would require many volumes, but I have studiously avoided introducing theories of a hypothetical nature.

The conclusions are in every case derived either from facts or from recognized principles.

The student should never rest until he gets at the reasons for what he sees about him. He should know something about the air he breathes, and the earth he lives upon, and about the relations between them. It is this great book of Nature, wherein each of us, young and old, may read, and go on reading all through life, without exhausting even a small part of what it has to teach us. It is that *great book—Air, Earth,* and *Sea*—which I would have you study.

I. ELEMENTS OF CLIMATE.

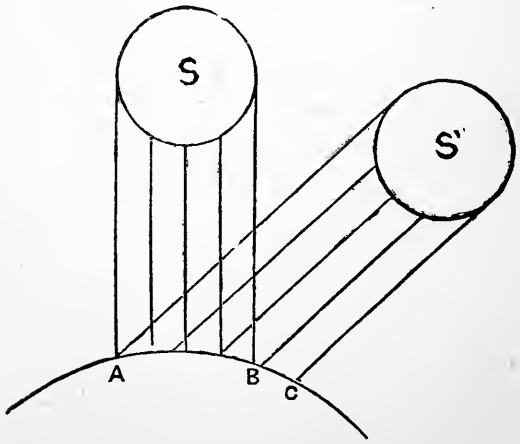
By climate we mean the temperature, the moisture of the air, the prevailing winds, and their results.

Heat comes from the rays of the sun, which give the most heat when they fall the most directly upon any part of the earth, and the least when they fall the most obliquely.

Temperature. When we speak of the heat or the cold of the air, we use the word Temperature. When the air is hot, the temperature is said to be high. When the air is cold, the temperature is said to be low.

The temperature is warmer at noon than in the morning or evening because at morning and at evening the rays of the sun fall in a *slanting* direction, and we receive comparatively few of the rays, because they are spread over a great surface.

At noon when the sun is more or less directly upon us, then we receive more of them because they fall upon a comparatively small space, as will be seen from the following figure:



Rays falling directly from overhead are said to be *vertical*; those falling in a slanting direction are said to be *oblique*.

This diagram put on the black-board will bring the matter home to the pupil's comprehension. The vertical sheaf of rays, striking the earth at noon, falls upon a small surface. In the middle of the forenoon or afternoon, the rays, falling obliquely are spread over a greater surface. At sunrise or sunset no part of the sheaf touches the earth's surface except its lower side, and most of the rays are lost in the atmosphere beyond. Tell the pupils that the sun always shines vertically, or nearly so, on the equator, and on a considerable belt beyond the equator on either side. Now, just as the sunbeams fall more directly at noon than in the morning or evening, so they fall more directly during the summer season than during the winter season.

Oblique rays.

In our country the sun centre is never directly overhead, and its rays fall upon us in the *most nearly vertical direction* on the longest summer day.

First Important Fact.—Temperature—that is, the heat or cold of a place—is one element of climate.

In some countries immense quantities of rain fall: in others none, or next to none. In the rainless districts the climate is *dry;* where much rain falls the climate is *wet* or *damp*.

Humidity.

When we speak of a wet or dry climate, we use the word humidity, or moisture.

Second Important Fact.—Humidity is another element of climate.

Prevailing winds.

Third Important Fact.—The prevailing winds form an element of climate.

The three *elements* of climate then are Temperature, Humidity, and Prevailing Winds.

A climate that is neither too hot nor too cold is called *temperate.* When it is very hot or very cold it is said to be extreme.

A climate that is in every way fine and agreeable is called genial or salubrious.

Review.

Three elements are included in climate :

1. *Temperature*—that is, the heat or cold.

2. *Humidity,* or the state of being wet or dry.

3. The *prevailing winds.*

(*a*). A *temperate* climate means one that is neither too hot nor too cold.

(*b*). An *extreme* climate means one that is very hot or very cold.

(*c*). A *genial* or *salubrious* climate means one that is in every way fine and agreeable, favorable to health.

These facts should be written on the board, and the pupils should be required to copy and commit them to memory.

II. THE GENERAL LAW.

How can we tell what variety of climate any country has? What must we know before we can tell?

NOTE.—Before this division of the subject is taken up, a lesson should be given on the shape or form of the earth, lines upon the earth's surface, etc.

We have learned that the earth in its motion, like a wheel, revolves around an imaginary line called its axis.

Latitude.

The most northern point of the earth's surface is called the North Pole, and the most southern point the South Pole.

There is an imaginary line called the Equator, drawn at an equal distance from each pole, and dividing the earth-surface into equal parts.

The countries where the sun shines directly overhead, or perpendicularly, are those that are near this line—the equator—(use a globe if you have one, or at least a map; place a diagram on the board, illustrate fully).

Here, $23\frac{1}{2}^\circ$ north of the equator, is another line, called the Tropic of Cancer, and $23\frac{1}{2}^\circ$ south of the equator is the Tropic of Capricorn.

Any country lying anywhere between the tropics is called intertropical. And since these countries have the sun directly overhead at certain seasons, and nearly so at all other seasons, they will have a hot climate. Then as we go nearer to the poles it becomes colder, till at last, at the polar regions, we find only ice and snow. We learn from these facts that the heat throughout the year is greatest at or near the equator, and diminishes gradually toward the poles. Thus we see that the climate of a place depends upon the *latitude* of the place. The latitude of a place is, therefore, of the first importance in determining its temperature, since a decrease of heat takes place with an increase of latitude as we travel, at the same level above the sea, from the equator toward the poles.

So it will be seen that latitude is the fundamental element in climate, and influences all the others.

At the equator, and within the tropics, the greatest heat is experienced, because the sun is always vertical

to some place within those limits, and the solar action is more intense in proportion as the rays are vertical to the earth. See figure, page 248.

As we recede from the equator the rays fall more obliquely; and, because fewer of them are spread over a larger space, they are less powerful, and consequently have less influence on temperature.

It has been calculated that out of 10,000 rays falling upon the earth atmosphere, 8,123 arrive at a given point if they fall vertically; 7,024 if the angle of direction is 50°; 2,821, if it is 7°; and only 5 if the direction is horizontal.

As will be seen, the amount of heat produced by the sun upon the earth's surface is greatest near the equator, and diminishes gradually toward the poles, and these causes are referable to the spherical form of the earth, and the angle at which the sun's rays impinge upon the surface.

In the equatorial regions they are vertical to the surface of the earth, and there produce maximum effect; but on account of the curved outline of the globe, they fall more and more obliquely with increasing latitude, and the intensity of action diminishes proportionately. At the poles they are tangent to the surface, and their effect is zero.

From these facts we may deduce the following:

General Law.—The climate of a place depends principally on its latitude.

MODIFICATIONS OF THE GENERAL LAW.

Height.

When we ascend mountains, the air becomes cool, cooler, cold, colder, till finally we find ourselves amid snows that last all the year around.

We may travel several hundred miles from the equator toward the poles, along the level surface of the earth, before we become sensible of a diminished temperature; but when we ascend the mountains between the tropics, when we begin to increase our elevation a rapid change of temperature is experienced, and those places that are elevated will be colder than those at the level of the sea.

On an average, an increase of 300 feet altitude diminishes the temperature 1° Fahr.; hence, the rate of diminution is about 3° to 1000 feet.

In large plateaus, however, the effect of altitude seems to be, in some measure, intensified by the great extent of absorbing and radiating surface uplifted into the atmosphere. In general they are considerably warmer than the isolated summits of mountains of the same altitude.

From this effect of elevation upon temperature, it is obvious that the mountain regions of the torrid zone have great varieties of climate.

In this region we may find vines at the base of the mountain. The region of vines rises from the level of the sea to a certain height; in this zone of vegetation may be found the date-tree, the sugar-cane, the fig, and the olive; next come the hardy species of trees, as the oak, the laurel; higher, the birch, the pine, and the firs; higher still may be found the grasses; and, beyond, a few plants and lichens; and, still beyond, the vegetation ceases entirely, and we have reached the line of perpetual snow.

NOTE.—Illustrate the zones of vegetation by a diagram at the board, using colored chalk.

From these facts we gather that the temperature of a place depends not on its latitude alone, but on its elevation, or, as it is called, its altitude.

The lower and denser strata of the atmosphere absorb the greatest amount of the sun's heat, and are necessarily the warmest; the atmosphere is not much heated by the direct rays of the sun, but receives heat mainly by radiation from the earth's surface.

First Modification.—The altitude of a place modifies the climate.

Mountains.

Mountains also modify the climate of large areas of lower lands in their vicinity. Their elevation intercepts the moist currents approaching from the oceans, and their cold summits condense the moisture, causing it to be precipitated.

Consequently, the winds, on leaving the mountains for the interior, are dry, and give the characteristics of dryness to the climate of the interior areas. This modification is well illustrated in our own country by the climate of our Western Plains, which are influenced in their climatic conditions by the high, cold wall of the Rocky Mountains.

The valleys west of this range have abundant rainfall, and, consequently, rich fertility, while those to the east have almost perpetual drouth, and consequently sterility.

Therefore, another modification of climate is the proximity of mountain ranges.

Second Modification.—The proximity of mountain ranges modifies the climate.

Heat causes winds. Winds are motions of parts of the atmosphere; warmer portions expand, become lighter, rise, and their places are filled by cold air. Winds.

Hence, tropical heat causes an ascending, warm, current of air at the equator. The heavy cold air from the poles, flowing toward the equator, causes *Trade Winds* on each side of the equator.

Ascending air cools, contracts, and descends to the surface beyond the tropics, meets the polar currents, and forms the return currents.

The motion of the earth causes the polar and return currents to be turned from their northern or southern direction, and they take a northeastern or southwestern course.

The character of the wind depends upon the region whence it comes. Winds from the equatorial regions carry into the middle latitudes some portion of the heat of the tropical regions; while polar winds bring the low temperature of the latitudes whence they come.

If there is nothing to break the force of the icy winds coming from the Arctic region, we may expect the country to be cold even if it is pretty far south; on the other hand, if there is nothing to break the force of the hot winds coming from the torrid region, we may expect the country to be warm, even if it is pretty far north.

In the United States the winds from the north are usually noted for their coolness, a property they derive from the frozen regions of Hudson's and Baffin's Bay, while those from the south, coming from the Gulf of Mexico, impart a mildness throughout the whole country.

The comparatively mild climate of the British Isles is owing to the prevalence of main currents of air which are warmed by sweeping over the Gulf Stream.

In the same latitude the shores of Greenland and Labrador are washed by the icy waters of the Arctic currents and swept by the polar winds.

The one region has a mild climate, and is occupied by the most enlightened nations of the world; the other is a frozen waste, sparsely inhabited by degraded savages and European traders.

We gather from these facts that the climate of a place depends not alone on its latitude, altitude, or proximity to mountain ranges, but on the character of the winds.

Third Modification.—The prevailing winds at a given place modify the climate.

Oceanic climate is characterized by uniformity.

The Ocean.

Water has a great capacity for absorbing heat, and but feeble conducting power; hence, the ocean grows warm slowly under the rays of the sun, and never attains a high temperature. It also radiates heat slowly, and as fast as the surface particles become cool, they sink and are replaced by warmer ones from beneath; hence the cooling process is as gradual as the heating, and neither produces extremes of temperature.

The ocean retains the heat longer than the land. In the summer the land is warmer than the sea, and in the winter the land is cooler than the sea.

NOTE.—This is a general statement, and does not refer to daily variation of temperature.

The air from the ocean moderates the heat of summer and cold of winter. So the coasts have a more equable temperature than the interior.

The *land* absorbs the solar heat rapidly, and the surface soon attains a high temperature. Especially is this the case when the soil is imperfectly covered with vegetation, as in treeless plains or deserts.

But, when the sun is withdrawn, heat radiates with rapidity, and a comparatively low temperature is soon reached. It is seen that the ocean preserves a much more uniform temperature than the land, hence islands and maritime districts have milder climates than inland regions under the same parallels of latitude. London, though situated in a higher latitude, enjoys a milder climate than Paris. The winters and summers of Ireland are much more temperate than those of any other country in the same latitude.

Let us take an example in Nature, and see what passes on an island alone in the midst of the ocean. Let us remember that the land is heated more readily than the sea. In proportion as the sun rises above the horizon, the island becomes warmer than the neighboring sea.

Their respective atmospheres participate in these unequal temperatures; the fresh air of the sea rushes from all directions under the form of a *sea-breeze,* which makes itself felt along the whole coast, and the warmer and lighter air of the island will ascend into the atmosphere.

During the night it is the reverse. The island loses heat by radiation, and cools quicker than the sea.

Its atmosphere, having become heavier, runs into that of the sea, under the form of land-breeze, and this interchange lasts until the temperature, and consequently the density of the two atmospheres has again become the same.

This is the phenomenon observed on the eastern coast of Georgia, Florida, and almost daily on nearly all the seaboards.

What takes place here on a small scale in the space of a day, passes on a great scale between the entire continent and the ocean from one season to another. A moment's reflection will enable us to see that these differences of temperature, setting the whole atmosphere in motion, modify the climate of a place.

So it is seen that the water of the sea keeps an island warm in winter and cool in summer.

In the centre of the continent the wind in winter blows over immense fields of snow or ice, and keeps the air cold; and in the summer it blows across the heated land, and the air must be very warm; the countries in the centre of a continent have an extreme climate; hence the nearness to, or remoteness of a place from the ocean, modifies the climate.

Fourth Modification.—The proximity of a place to, or its distance from, the ocean modifies its climate.

Ocean currents.

There are rivers in the ocean called *ocean-currents.* They consist of vast oceanic streams which keep up a perpetual circulation of the waters. Some of them have been traced many thousand miles. All the rivers in the world are insignificant when compared with some of these currents.

They move on steadily through the water comparatively at rest, and are often different from the latter in color and temperature. Some are hundreds of miles broad, thousands of feet deep, and have a course embracing the larger part of the ocean in which they move.

Currents exist not only at the surface, but in deep waters, where their course is frequently in a different direction from, sometimes even opposite to that of the surface-currents.

The direction and velocity of currents are modified: 1. By the revolution of the earth on its axis; 2. By the constant winds of the Torrid Zone; 3. By being turned aside by the shores.

The expansion and contraction of water by heat and cold are, perhaps, the principal causes to which currents are due. Heat causes water to become warm; warm water is lighter than cold, and when certain portions become heated, they rise by reason of their buoyancy, and are replaced by surrounding colder and heavier water flowing at the same time toward the equator. The ocean currents assist to cool the tropical and to warm the polar regions.

Evaporation by solar heat causes large quantities of water to pass off in vapor; and it is this excessive evaporation within the tropics which tends to lower the level of the water there.

The revolution of the earth round its axis is still another powerful cause in producing currents, particularly those of the equatorial regions, which have commonly a western direction.

The winds of tropical climates, which blow continuously or during long periods in one direction, also lend their influence in affecting the currents.

The effect of the rise and fall of tides in producing an alternate flowing of currents in opposite directions is perceived in channels between islands, or between islands and the mainland.

Thus, in the channel which connects Long Island Sound with the harbor of New York, known as the East River, strong currents alternately prevail in opposite directions, as the tide ebbs and flows.

The Gulf Stream, which first becomes apparent near the northeast coast of Cuba, has a great influence on climate. The Gulf Stream, as it issues from the straits of Florida, is of dark indigo-blue, so strongly contrasting with the greenish color of the sea that the line of contact is distinctly traceable by the eye. Near its origin this remarkable current has a breadth of 32 miles and a depth of more than 2,000 feet; off Cape Hatteras the breath is at least 75 miles, and the depth more than 700 feet.

The temperature at its origin is about 80° Fahr.; on an average it is from 20° to 38° warmer than the adjacent water.

The comparatively high temperature of this great stream modifies the climate of the eastern coast of North America; and as it sweeps across the Atlantic Ocean, in its northeast coast to the British Isles and Norway, it modifies the climate of those countries. It will be seen, by a study of the *ocean-currents,* that the polar currents and the return currents bring heat to the western shores, and that they produce contrasts in tem-

perature in the same latitude on opposite shores of continents. We gather from these facts that the ocean currents modify the climate of a country.

Fifth Modification.—Ocean-currents modify the climate of a place.

Rain-fall.

The annual quantity of rain that falls in a place considerably affects its climate, by imparting a greater or less degree of humidity or dampness of the atmosphere. In general more rain falls on islands and on sea coasts than in inland districts; among mountains than in level regions; and within the tropics than in the other zones.

Heat and winds produce rains. Heat causes evaporation; the vapors rise in the air; air at a given temperature has a certain capacity for moisture; when this limit is reached the air is said to be saturated with humidity, and the least lowering of the temperature causes a condensation of moisture in the form of dew, fog, clouds, or rain; but, if the temperature is raised, the capacity for vapor being increased, absorption recommences.

As long as the amount of vapor present in the air is much less than is required for saturation, evaporation goes on rapidly, and the air continues to absorb the rising vapors. It is, therefore, called *dry* air. When the air is nearly saturated evaporation proceeds but very slowly; when saturation is reached evaporation ceases, and the air is *moist* or *humid*.

Visible masses of vapor resting on or near the ground are called fogs, while those floating in the air at a considerable height are distinguished as clouds.

Condensation and rain are mostly caused by the cooling of currents of warm air laden with aqueous vapors.

Cold causes condensation; the vapors condensed fall as rain; hence rain is caused by the cooling of air laden with moisture. The temperature of tropical winds advancing into cooler latitudes is lowered, the moisture is then condensed, and the rain falls. Cold winds, if saturated, advancing into warmer latitudes become expanded, and their capacity for moisture is increased; they become less humid, the clouds dissolve, and the air becomes *clear* and *dry*.

Winds blowing over plains retain their moisture, but if they strike a mountain they become cooled, and the rain falls. Plateaus usually receive less rain than other forms of relief, because the mountains, which form the borders of the greater number, prevent the vapors borne by the winds from reaching them.

From these facts we see that the annual amount of rain modifies the climate of a place.

Sixth Modification.—The annual quantity of rain modifies the climate of a place.

Soil.

The nature and covering of the soil have an influence upon the condensation of the vapor in the air. A region with nothing to shield it from the burning rays of the sun becomes intensely heated, and imparts to the superincumbent air a temperature so high as to dissipate all clouds which may float into it from the surrounding atmosphere. A covering of vegetation, on the contrary, shields the soil from the sun's rays, keeps its temperature lower, and promotes condensation. And whether a region be bare or covered with vegetation greatly affects its climate. From these facts we see that the nature and covering of the earth have an influence upon climate.

Seventh Modification.—The nature and covering of the soil modify the climate of a place.

The clearing of forests, the draining of swamps and marshes, the cultivation of the soil, etc., are among the operations of man by which the climate of a country is greatly modified and improved. Forests.

Clearing a country of trees has the effect of raising the mean annual temperature, but at the same time introduces greater extremes of heat and cold. Open grounds are always frozen deeper than woodlands, but the latter retain the snow and ice of winter to a much later period in the spring than the former.

From these facts we see that the cultivation of a place modifies its climate.

Eighth Modification.—The degree of cultivation and improvement modifies the climate of a place.

Both the moisture and salubrity of a region are influenced by its *vegetation.*

The leaves of trees and plants give forth moisture to the atmosphere, and take from it its carbonic acid; hence the forests receive more rain than treeless regions similarly situated, while at the same time they check the evaporation of moisture from the soil; thus they equalize the irrigation of the surrounding country and augment the volume of its springs and rivers; hence forests effect an important modification of climate. Vegetation.

Salubrity or the health condition depends greatly on the general character of the surface, as to evenness or unevenness. When the areas are even or flat the waters spread over larger surfaces, become stagnant, and are charged with decaying animal and vegetable matter.

The adjacent atmosphere receives foul emanations from these unwholesome waters, and the region is thus rendered insalubrious and unhealthful. Where, on the contrary, the surface is uneven or broken, the waters collect into narrower currents and move with considerable velocity, carrying away decaying substances, cleansing the region, and rendering its climate more and more wholesome.

Hence an important modification in a region results from its evenness or unevenness of surface.

Ninth Modification.—The evenness or unevenness of the surface modifies the climate of a place.

Recapitulation.

Elements.

First Important Fact.—Temperature—that is, the heat or cold of a place—is an element of climate.

Second Important Fact.—Humidity—that is, whether it is wet or dry—is an element of climate.

Third Important Fact.—The prevailing winds are an element of climate.

General law.

General Law.—The climate of a place depends principally on its latitude.

Modifications.

First Modification.—The altitude of the place modifies the climate.

Second Modification.—The proximity of mountain ranges modifies the climate.

Third Modification.—The prevailing winds modify the climate.

Fourth Modification.—The proximity of a place to, or its distance from, the ocean, modifies the climate.

Fifth Modification.—Ocean currents modify the climate of a place.

Sixth Modification.—The annual quantity of rain modifies the climate of the place.

Seventh Modification.—The nature and covering of the soil modify the climate of a place.

Eighth Modification.—The degree of cultivation and improvement modifies the climate of a place.

Ninth Modification.—The evenness or unevenness of the surface modifies the climate of a place.

Kinds of climate.

1. A temperate climate means one that is neither too hot nor too cold.

2. An extreme climate means one that is either too hot or too cold.

3. A genial or salubrious climate means one that is in every way agreeable, favorable to health.

Definition.

The condition of a country in regard to temperature, moisture, and the prevailing winds, is its *climate.*

HISTORY.

The facts of history comprise the sum of the events that man has brought about in all the teeming centuries since first he inhabited the earth. The number is beyond the power of imagination to conceive, and historians do not attempt to enumerate them. They describe some of the grandest and most interesting features of a nation's life, and leave the rest to be inferred or forgotten.

Keep facts in perspective.

History describes the past conditions and actions of men, and investigates the causes which have operated to produce them. History should be taught from a series of progressive standpoints.

In the history of every nation there are certain prominent events from which as centres other minor events have seemed to emanate, and to which they bear reference. It is only of these great events that we need to know the dates or the minute particulars. It is a useless waste of time and labor to commit to memory a great number of dates to be speedily forgotten. Only such dates should be committed to memory as are indispensable as land marks in history. The sequence of events, rather than the precise date of each, is what is chiefly necessary.

Useless teaching.

The teaching that goes under this name in schools is generally a farce. It consists usually in stringing together the names and dates with a few facts of the least important kind. Or, if more is

attempted, it is reading in a text-book; in which case generally there is little within a child's sympathy or comprehension, and together are often jumbled, without purpose or method, facts of the most diverse kind, from which it is impossible to gain a clear conception of any of its elements. When such an array of facts is given as a whole to a child, it can produce nothing but embarrassment.

A knowledge of the history of their own country is about all that can be expected of pupils in our common schools, but in the higher schools it should be extended to universal history.

Our own country first.

No one can well do without this knowledge, and to the citizen it seems indispensable. The law should require the history of the United States to be taught in every school.

History presents many examples of good and great men and women who honored by their noble deeds the age and country in which they lived.

Moral influence.

Moral examples have more influence upon the young than moral precepts. The heart is more easily moved to virtue by incidental teaching than by direct teaching.

The great deeds of the past have been done by beings like themselves, whom they enjoy learning about.

The history of such men as Washington, Franklin, Lincoln, and scores of others, proves an incentive to youth, and the moral seeds sown in open hearts germinate and eventually produce rich fruit.

The reason why pupils take so little interest in the study of history is principally on account of the fragmentary manner in which the subject

Topical treatment.

is presented in our text-books. Lessons in history should be assigned by topics, and not by pages. All verbatim recitations of sentences and paragraphs should be forbidden, and pupils should be required to state the facts in their own language.

Essential to citizenship.

History should be taught as a methodical record of important events. To every American citizen some knowledge of the history of his own country is useful; he should know of the founding, progress, and growth of liberty in his own country. Towards the preservation of good government and the permanency of our institutions, it is necessary that the principles of government and the leading events of history be taught in our American schools.

The idea of national unity and of patriotism should rise above the stripes of party and the turmoils of war, and plant itself as the one thing vital to American institutions. That the subject of history may secure attention from the teacher, and study from the pupils, is the sincere wish of every loyal American citizen.

GENERAL SUGGESTIONS.

1. Interest the pupils by a familiar talk.
2. Examine the lessons with the pupils.
3. Draw maps and locate important places.
4. Let the maps be examined and criticised.
5. Bring out the prominent, salient facts, with clearness.
6. Require pupils to classify and tabulate the lesson, and recite from the tabulation.
7. Do not require too many dates.
8. Let the pupils state the causes of the different wars and their effects.

9. Teach history as a methodical record of important events.

10. An objective representation should be given by means of maps and charts; drawings and diagrams should be placed on the board of all important matters in the history of the nation.

A Model Lesson.

Important Questions.

1. What event?
2. What causes?
3. What battle?
4. What time?
5. What place?
6. What persons?
7. What means?
8. What losses?
9. What results?

Taking these questions for the model form, we have the following lesson: *History of the Battle of Bunker Hill.*

1. What event? Revolutionary War.
2. What causes?
   - 1. Remote.
     1. Rights of arbitrary government claimed by the British.
     2. Character of the King, George III.
   - 2. Direct.
     1. Importation Act.
     2. Stamp Act.
3. What battle? Bunker Hill.
4. What time? 1775, June 17.
5. What place? Breed's Hill.
6. What persons?
   - American Generals.
     - (*a*) General Ward.
     - (*b*) General Prescott.
     - (*c*) General Putnam.
     - (*d*) General Warren.
   - British Generals.
     - (*a*) General Gage.
     - (*b*) General Howe.
     - (*c*) General Clinton.
     - (*d*) General Burgoyne.

7. What means?
   1. American—limited.
   2. British—unlimited.

8. What losses?
   1. American—115 killed, 305 wounded and 32 prisoners.
   2. British—1054 killed and wounded.

9. What results?
   1. American.
      1. Remote—Gaining our Independence.
      2. Direct—Encouraging.
   2. British.
      1. Remote—Defeat.
      2. Direct—Discouraging.

This model form may apply to a period of our country's history, or to a battle of that period.

Associate, as far as possible, geography with history.

Reviews.

The review should take three distinct forms, chronological, biographical, and geographical. In the chronological, the pupil should state all of the principal dates; in the biographical all that has been learned in regard to particular individuals; and in the geographical, whatever he can state of all important facts relating to the history of a locality.

These reviews may be made spirited exercises, by requesting the class to write a few of the essential dates, the sequence of important events, the names of important individuals. The system of the reviews above suggested, must, if faithfully carried out, result in a thorough unifying of the general subject of history.

Incidental lessons.

Many of the facts of history may be given in reading, and especially in geography lessons. Such facts embrace pictures of social condition, growth of manufactures and of populous districts, actions that have made particular places celebrated, and incidents in the lives of remarkable men. Through these the mind, furnished with some of the material of his-

tory, may pursue with more advantage to itself its systematic study.

Lessons on any subject are thus more adhesive than when given to a mind entirely ignorant of it.

Expedients.

United States history may be taught in a way to make it of very little use. To memorize a dry narrative will be of little avail except to inspire disgust with history in general. But all modern text-rules accept the topical method of arrangement, at least in their summaries, and Northam's "Helps in Fixing the Leading Facts of American History," makes this topical review practicable in every school.

Here all facts are presented in groups. The key-word to the Revolution, for instance, is LIBERTY, as shown in the accompanying table of *Key-Words;* and in like manner the events of the late civil war are kept chronologically distinct by the key-words SLAVES FREED.

1775. **L**—exington.
1776. **I**—ndependence.
1777. **B**—urgoyne's Surrender.
1778. **E**—vacuation.
1779. **R**—etribution.
1780. **T**—reason.
1781. **Y**—orktown.

Chart No. 1 indicates by stars the years in each decade from 1492 to 1789 in which the most remarkable events occurred, while the colored Chart No. 2 arranges the events under the Constitution in the following groups: (1) Acquisition of Territory, (2) Financial Matters, (3) Tariff, (4) Treaties and Compromises, (5) Wars and Rebellions, (6) Important Proclamations, (7) Great Inventions, (8) Slavery, (9) Epidemics, (10) Conflagrations, (11) New States, (12) Death and Resignations of President and Vice-President.

From known to unknown.

In all your teaching the principle of proceeding from the known to the unknown must be followed. A clear picture of the present must be drawn, embracing, in their order, all of the above particulars. The method, whatever it may be, should quicken the pupils' observation, and lead them to see some importance in matters of everyday life. Every succeeding lesson should bring up vividly the condition of man in the past, and compare it, in its several particulars, with things now. This will make more and more evident how great has been the change, and how much for the better. The pupils should see how events, both great and small, have contributed to the prosperity and the advancement of the people.

Aim in view.

The aim in teaching history should be to inculcate those moral lessons which it is the office of history to teach by example. What, for instance, could be better adapted to produce a spirit of contentment and thankfulness, than a clear knowledge of the present condition of our country, with its points of superiority over that of other nations? What better opportunity can be desired for showing and enforcing the necessity of character and skilled industry than is afforded while tracing the improvements and the progress of our nation for the past one hundred years?

Among books that will aid in teaching history are "A Thousand Questions in U. S. History," $1.00; Williams's "Topics and References in American History," 50 cts.; Juliand's "Brief Views of U. S. History," 50 cts., and Van Wie's "Outlines in U. S. History," 15 cts. Valuable charts are Blanchard's "Tablet of American History," $3.00; and Houghton's "Conspectus of U. S. History," $5.00.

OBJECT LESSONS.

Can the natural sciences be profitably taught to the average pupils in our schools? Our first inquiry leads us to distinguish between the natural and the artificial studies to which the children are introduced.

Education by nature.

The child's mind is an instrument for acquiring rather than using knowledge. He voluntarily begins the study of nature. Here he goes to school long before his parents send him. He touches with child-hand many forces, and tries to grasp them. His studies are natural, for they are in the order of his mental development. Study is play; play is study. The objective part of mathematics unfolds to him the shapes and numbers of things. He begins physics with the weight of his toy, or watching the ripple and dash of brook, or the whirl of the water wheel. He opens his botany when he plucks a flower, distinguishing color and form. He notices the material of rocks, and gathers various stones like a zealous mineralogist.

Teaching contrary to nature.

A child confined as many pupils are to the reading, writing, and arithmetic method of discipline, might as well be brought up in a desert as in the world of beauty and power which surrounds him. His eyes are gradually closed to a thousand alluring truths; his ears are dulled to the myriad voices of nature. It is still true that to a majority of

pupils in the public schools, the acquiring of knowledge is uninteresting and positively irksome.

Sense teaching.

But right teaching requires that the child's powers of knowing accurately should be developed, and hence should begin and largely continue with his senses. Words and number, over which so much time is spent in reading, spelling, and arithmetical problems, are valuable to his mental development, as they are associated with things really known. Hence the elements of science furnish the proper material for such study. Knowledge is not power to the child, if it is abstract. He cannot use knowledge which lies beyond the sphere of his daily observation and experience. What the State needs is intelligent citizens, and intelligent youth from whom they can be made. These come of the power of knowing and judging accurately. We claim for the Natural Sciences this effect on the child. They deal with facts more sensible than those of arithmetic. The parts of a leaf or of a flower are definite, easily comprehended, and classified with certainty. This is true of the nature and species of the common animals, shells and insects, the constituents of a stone, the qualities of an acid or gas, the history of a rock traced in forms of life, the nature and effect even of geological changes.

Mental training.

No wide range of knowledge is required to understand definitely and surely scientific facts simply presented to the youthful mind. It easily comprehends them as a whole. We claim, therefore, that to whatever degree the reasoning faculties should be developed to furnish the child-mind with power, this is best secured by its reasoning on facts and

things rather than on abstract ideas, to which children's studies are often confined. The last knowledge gained by man is the correct understanding of human nature, of the causes of human actions. The sciences teach the relations of cause and effect in their clearest manifestations. With enlarged comprehension the child may learn the secondary character of causes. He will trace their relation to effects with the certainty of conviction to his mind. Thence will be imparted the element of *positiveness* to the pupil's acquirements and habits of character. He learns to act unwaveringly on what he knows, and to know positively that upon which he acts. Correcting by his own observations the conclusions to which he is led by the inductive methods of science, he gains independence in thought, and, with that, confidence in his own powers of judging, which are the safeguards of his character and of his rights as a freeman under our republican institutions.

Habits of observation.

Thus early introduced to the elements of science, the foundations of his character as a citizen are more broadly laid. The child becomes more inclusive in thought, more inventive through familiarity with the mechanism of nature, and more appreciative of the wealth and beauty of his country's resources. Taught to observe, he never ceases to be affected by the changing lines and hues of nature which his daily vision embraces, and the elements of a true æsthetic culture find place in him which will add to his certain worth and power as a citizen. The old idea that knowledge is for discipline is faithfully maintained in our education. Yet knowledge is one of the natural desires of the mind. The true science of education will make it a pleasure.

This will require for the senses larger opportunity than they now enjoy. Moreover, we owe to the State and its free institutions, to raise the standard of intelligence and culture among the people, among mechanics, farmers, merchants, and laborers in the mill or street. A discernment of the true nature and qualities of things in their daily use will secure this far better than drills in spelling, arithmetic, and grammar. The mass of our citizens are not intelligent enough to understand one-half the instruction contained in a good weekly newspaper.

Place should be made.

We make, therefore, this demand for the sciences—first, that they have an equal place with the usual studies of primary and grammar and district schools; secondly, that our teachers be required to make plain the elements of the sciences to pupils below fourteen years of age, at the expense of rote-drills and problems in arithmetic, grammatical analysis, spelling without definitions, and the time spent in preparing for pretentious written examinations, imposed at too early an age, that have become one of the worst abuses of an artificial system in public work.

I. WITHOUT APPARATUS.

Methods of teaching.

But how should these sciences be taught in district schools, or grades below the high school? The efforts of authors of elementary text-books in science are not entirely successful; most of them are still too technical. There is less vividness in the statement of the facts of science, less personification and idealizing of the study than a child's apprehension demands. The ancients taught their children the forces

and sounds and shapes of the waters and fields and forests, by personfications of nymphs and dryads, gods and goddesses, in whose histories and habits they were personally interested. So should the stories of insects, fishes, mollusks, birds, and well-known animals, or of plants and stones, be told without text-books by the teacher, with scientific truthfulness as to their modes of life and motion. Thus children would become familiar with their living forms. With text-books still defective, the teacher's opportunity lies in what President Hill calls the incidental method. Let her have specimens of minerals, leaves, insects, flowers, pictures of birds and animals, and simple apparatus for illustrating chemical and physical forces, in order to make real to her classes the subjects of the lesson. By a hundred well selected stereoscopic pictures she could teach physical and political geography as effectively as the shapes, circles, and seasons of the earth by a globe. Thus the text-book in the hands of a suggestive and excursive teacher will become secondary to her personal power to make knowledge real and interesting to the youngest pupils in her classes. Yet the text-book in science will give the study equal dignity with the arithmetic in the mind of the scholar, whilst it corrects the unscientific or garrulous tendencies of the teacher.

Incidental teaching.

Moreover, no other studies will so naturally develop the personal power of the teacher. Proceeding by the method of nature, step by step from the known to the unknown, she will awaken enthusiasm in the class, and from the fulness of her devotion to the subject there will be an overflow into the minds of the pupils. Rote-teaching in these ele-

Enthusiasm aroused.

ments of science is utterly defenceless. Every class of facts and every principle involved should have illustration from the wide range of nature. The *living* method should be employed in the sciences. Every sense and power of the child can be grasped and applied to them by the live teacher.

Object lessons.

The chief purposes of the object lessons are two: first, to cultivate habits of careful observation and reflection; and second, to give facility in oral description. When properly given they involve the systematic discipline of the perceptive faculties and of the judgment, of imagination and the memory of facts, and in the use of language.

The method that should be pursued is that known as the objective method. This presents two distinct though intimately related departments: perceptive teaching, in which the object, as an acorn, an egg, a leaf, or a piece of coal, is directly presented to the pupil's senses; and conceptive teaching in which impressions previously received are recalled, arranged, and utilized, the objects themselves not being presented to the senses during the lesson. A lesson upon an oak, an elephant, or a thunder storm would fall under the latter department. The use of pictures, models, or other sensible representations of objects, is an important combination and modification of the two departments.

Definitions.

Definitions should be very sparingly introduced, and never in the first stages of a subject. If given at all, they should sum up knowledge already attained. They should be as brief as possible and should be carefully prepared for by a process at once inductive and objective. The words *organic, inorganic,*

vegetable, animal and *mineral,* are prominent among the very few terms requiring definition. In every stage of the lessons, with the exception of a few indispensable definitions, the language used by the pupil should be entirely his own, and all set forms of words should be carefully avoided. "Familiar objects," and familiar animals, plants and minerals should take precedence of all others in the selection of topics.

Two stages.

The process employed will necessarily present two distinct stages in accordance with the two chief purposes of these lessons already referred to. The first may be called the analytic or preparatory, and furnishes the principal discipline of the powers of observation and reflection. In this stage, which is largely conversational, the teacher leads the pupils by questions or otherwise to discover or remember the properties or peculiarities of an object, or to state any other important facts associated with it. The points thus considered should be written upon the black-board in very brief synoptical form, but each only *after* it has been dwelt upon.

The vital element.

The vital element in this part of the work, that which gives it a living interest to the pupil, is the discovery or learning of new facts, or the gaining of new ideas about the object under consideration. It is evident that from the nature of the case this important element must be chiefly limited to the first presentation of the object. Reviews, although for certain purposes indispensable, soon become, at least as far as this element is concerned, much like "a thrice-told tale." This makes it all the more important that the teacher should have an outline of the lesson care-

fully prepared beforehand, so as to be sure to include the points most likely to be interesting and instructive. Any additional point or fact afterwards drawn from the class may be readily incorporated.

Small classes.

It should also be remembered that the effort to "develop the perceptive powers" of children has its limit, especially when applied to large classes. In teaching a little group of four or five, comparatively little difficulty should be found by the skilful teacher. But when the class ranges in number from forty to sixty in the grammar school, and to seventy-five in the primary, and when at the same time owing to the pressure of the other and more directly important exercises of a graded school the time given to oral lessons is limited to a very few minutes, it is evident that the problem is a different and more formidable one.

Get answers from all.

In the first lesson upon any given object or phenomenon, unless great care is taken to prevent it, a few pupils of naturally quick perceptions will give most of the responses, and the rest of the class will be as really "told" by their classmates as if the information had been given by the teacher.

It is true that in both cases there is an exercise of the perceptive faculties; but it is obvious that the mental condition in which we follow and verify a statement made by another is usually one of far less vigorous and profitable activity than that in which we discover a fact of ourselves. The former may be called the perception of discovery, the latter the perception of verification. Nevertheless, from the very nature and condition of class-teaching, the lower and the less profitable form of the mental exercise will be the predominating one. The

methods of reducing this evil to a practical minimum will be obvious to the experienced teacher. It is also well for us to consider how large a part of what we call our own knowledge has become ours only through verifying the statements and perceptions of others.

The processes and results of this first or preparatory stage of the work, important and interesting as they may be, are entirely subordinate to the second stage. The preparatory stage collects the *material* for the work that is to follow; the lumber, lime, bricks and stone for the edifice that is now to be constructed with them.

Development of a Subject.

Let us suppose that the subject of our lesson is Salt. The teacher has given the lesson with due attention to the requirements of the objective method. The qualities, as learned by the senses, the kinds, uses, and sources of salt have been considered. To these points have been added the chief source of our own supply, the singular fact that it is a mineral food, its necessity to the health of a body, a brief reference to its ancient use as a symbol of hospitality and to certain superstitions which still cling to it, together with such other simple and interesting facts as seemed appropriate.

Points developed.

In that stage of the lesson which we have now reached, the chief discipline is of the memory of facts. "What do you know or remember about salt?" should be the teacher's only question, except when an error is made in the statement of facts, when a proper question or two should lead to its correction, not by the teacher, but by the class. The points as written upon the blackboard in the order in which the pupils remember them

will be something like the following, omitting the prefixed numerals, which will presently be explained.

Salt.

3. Taste,	9. Springs,	6. Made into Soda,
4. Seasoning,	10. Ocean,	2. Soluble,
1. White,	11. Sparkling,	13. Hospitality,
7. Kinds,	12. Granular,	14. Superstitions.
8. Mines,	5. Preserves meat and fish,	

Arrangement.

The next step is to have the class, not the teacher, condense and arrange this miscellaneous list of items into a brief and orderly synopsis. This is a point of prime importance, but is so simple in practice that any ordinary class will need but one illustration in order to apply the principle. With beginners this will be best understood by illustrating with some short story—one well-known to pupils is best. Whittington and his Cat would do admirably. Write the chief points of the legend on the blackboard in brief, synoptical form, but in an absurdly illogical order:

Whittington—a chest of gold—goes to sea—born in London—Mayor—cat given him—dies respected—poor boy, etc., etc.

If now the teacher will begin to tell the story, following the exact order of the synopsis, the class will soon object, and may readily be lead to number the items in the order in which they should be stated in telling the story.

A very little practice will enable the class to number the items relating to salt sustantially as they are numbered in the synopsis already given. When these are arranged according to the principles of object teaching, they will condense into—

Salt.

1. Qualities—3 : White ; soluble ; saline taste.
2. Kinds—3 : Rock ; bay ; table.
3. Uses—3 : Seasoning ; preserving meat, etc.; soda.
4. Sources—3 : Mines ; springs ; ocean.
5. Associations—2 : Hospitality ; superstitions.

In making up a final synopsis such as this, great care should be taken not to overload a subject by a multiplicity of details. To accomplish this, only the most important items of the irregular synopsis should be taken. To attempt more is to cause the lesson to break of its own weight. Most of the objects properly selected as the basis of the lessons of the lower grades may readily be reduced to form seven to ten items. The smaller the number the better.

Not too many details.

Now what use is to be made of this synopsis? It is obvious that if the pupil has the synopsis before him on the blackboard and is called upon to state without being questioned what he knows about salt, the synopsis will be to him a brief set of arranged suggestions or notes, and that with a little practice he will be able with its aid to make a "continuous oral statement." But a much more important use can be made of this synopsis.

Use of synopsis.

The next step is to train the class to reproduce it for themselves. This will be found to be of great practical importance, and is indeed indispensable. The memory will now be called into exercise to remember the facts, and the brief notes with which they are associated. The judgment will be trained to arrange them in their logical order of sequence. When by many lessons this has been made a

Reproduction.

mental habit, the influence of the training will be felt upon all the other school lessons, as well as through life. There are several ways of accomplishing this step of reproducing the synopsis. The following is one of the most simple, expeditious and efficient. Skilful teachers will readily devise methods of their own.

1. Write the seven to ten or more items upon the blackboard in their proper order. This has already been determined by the pupil. Place its proper number before each item.

2. Tell the pupils to look carefully at the items and try to remember them, and that you will presently require them to be written in the same way upon the slates and from memory.

3. Cover the synopsis with a newspaper or the convenient screen, and at a given signal let the pupils try to reproduce it upon their slates.

4. Call upon one to read what he has written, and let the rest of the class, without looking upon their slates, tell what he has omitted or what error he has made. Then give all a brief opportunity to correct and complete. Have the slates cleaned, and try once or twice more, if necessary, until a reasonably correct result is obtained. Clear the synopsis from the blackboard.

5. The final step is obvious. It is that for which all that precedes has been the preparation. Let a sufficient number of pupils be called upon one after another to make a connected oral statement of such facts and ideas as each can properly recall, glancing from time to time, as he may find it necessary, at the synopsis upon his slate.

Specimen Object Lesson.

The Bear—Use Pictures.

Parts.

Broad head; strong, clumsy body, covered with long coarse hair; stout thick legs; short tail; large, slightly pointed ears; small, bright eyes; front teeth in both jaws; canine teeth (two in each jaw), long, strong, and slightly curved backwards; molars broad and surmounted with tubercles; five toes on each foot, each having a long, stout, curved claw or nail, fitted for digging or climbing (not retractile). Sole of foot naked; simple stomach.

Habits.

Eats animal and vegetable food; walks on his flat feet (hence called plantigrade); climbs trees; nocturnal; stands readily on hind feet; uses fore feet for defence by striking or hugging.

Uses.

Flesh, leather, fur, curiosity.

Dwell on adaptation of parts to habits and uses.

Miscellaneous.

Cunning, unsocial; spends the winter in caves or in hollow trees, almost without food; dangerous and formidable; sometimes called Bruin. (Why?)

A few lessons should be given with the use of pictures, upon the lion, tiger, wolf, fox, raccoon. The cat, dog, and bear being the *types* of the families to which they respectively belong, the matter furnished above will answer in all essential particulars for classifying the other animals.

Give lessons on likenesses and differences; from the former get the idea and term carniverous, and from the latter the following:

Carniverous Animals. { Cat family. / Dog " / Bear " / X "

NOTE.—The other families of this order are not given, because to attempt so much would defeat the object of the lessons.

Models for identifying or describing:

Oral.

The lion is a wild, ferocious, toe-walking animal that belongs to the cat family of carniverous animals.

Written.

Wild.

Carnivorous Animals. { Digitigrade. / Claws retractile. } Cat family.

Carnivorous Animals. { Front teeth in both jaws. / Canine, long, hooked, fitted for tearing. / Molars, uneven, sharp, fitted for cutting. / Simple stomach. } Carniverous.

After each animal studied has been identified according to plans given, and a general talk had upon the whole order, a composition should be written upon the subject, Carnivorous animals.

Several weeks may be spent profitably upon a comparison of Herbivorous and Carnivorous animals.

The following points are suggested.

Kinds of teeth.	Kinds of food.
Kinds of stomachs.	Nature of food.
Shape and comparative size of trunks, especially the abdominal region.	Quantity of food.
Acuteness of senses.	Manner of obtaining food.
Pliability of osseous structure	Manner of obtaining food.

Freedom of motion of the limbs.	- -	Manner of obtaining food.
Kinds of feet. - - -		General habits, manner of obtaining food.
Muscular power, (Relative.) Limbs as weapons of offence or defence.	-	Obstacles to be overcome in obtaining food.
The animal in each order most remote from the type. (Hog, bear.)	-	Food (both kinds.)

The work indicated by this paper will require more time than that of the preceding papers.

II. WITH APPARATUS.

I. Directions.

1. Let the pupils describe the apparatus.
2. Let the pupils perform the experiments.
3. Let the pupils announce the experiments.
4. Use simple objects and illustrations.
5. Proceed by rudimentary facts.
6. Proceed by individual cases to deduce laws.
7. Let the principles be developed by the pupils.
8. Let the pupils perceive that we arrive at results by three different ways: 1st, by *observation;* 2d, by *experiment;* 3d, by *effects.*

II. Cautions.

1. Speak slowly.
2. Repeat carefully.
3. Use simple language.
4. Write points on the board.
5. Require pupils to copy.
6. Keep close to the subject.
7. Require pupils to answer in complete statements.

8. Repeat experiments and illustrations.
9. Reproduce each lesson carefully.
10. Never use a term that has not been fully developed.
11. Guide the pupil's thoughts, but do not lead them.
12. Arrange a definite plan.
13. Work so as to secure and hold attention.
14. Let your object be to guide pupils to see clearly and infer correctly.

General Formula.

I. Objects should be presented,

1. To the senses, or perception.
2. To the reflective or reasoning powers.
3. Their features should be thoroughly memorized.

II. Ideas should be developed,

1. By appealing to the senses.
2. By comparison.
3. By experiment.
4. By reason.

Specimen Lesson on Divisibility.

The teacher should have on the table different articles, as slips of wood, a lump of coal, pieces of glass, brick, stone, etc., glass jar containing water, cochineal, carmine, etc.

First, let the pupils describe the articles, as,

"You hold in your hand a piece of pine wood ten inches in length, two inches in breadth and one-half inch in thickness."

See that they express the truth and use accurate language.

"You hold in your hand a lump of coal about as large as a hen's egg."

"You have in your hand a piece of brick about four inches in length, four inches in breadth, and two inches in thickness."

"You hold in your hand a glass jar containing one quart of clear water," etc., etc.

The teacher may now place in the hands of the pupil a small slip of wood and tell him to do something with it. The pupil will either break, cut, or split it. The teacher will ask him to observe what he has done with it. The pupil will answer, "I have broken it." The teacher will so question the pupils as to draw out an answer similar to the following: "The wood may be separated into parts."

Wood.

Again the teacher will request one of the pupils to take the hammer and do something with the coal. The pupil will break it, and he perceives that the coal may be broken into pieces.

Coal.

The teacher will also question the pupil so as to draw out the following answer: "Coal may be separated into parts." So proceed with the brick, glass, stone, iron, etc., and lastly take the glass jar and put in a few grains of cochineal, carmine, or indigo, and let the pupils notice the effects. They will say that the cochineal is coloring the water; let them see that the cochineal is separated into thousands of parts; lead them to say that cochineal "may be separated into parts." The teacher should write all these facts on the board, and require the pupils to spell the words. See that the children begin every statement with a capital letter and end it with a period.

Cochineal.

The lesson thus far developed will appear on the board in the following form:

1. Wood may be separated into parts.
2. Coal may be separated into parts.
3. Glass may be separated into parts.
4. Brick may be separated into parts.
5. Iron may be separated into parts.
6. Cochineal may be separated into parts.

Pupils should be required to copy the above neatly, and reproduce it. They should be led to perceive that all objects may be separated into parts. At this stage ask them to give a general name to all things that they can perceive. They will give the names: things, objects, articles, substance, matter,—perhaps not the latter; if they do not give the word matter the teacher should give it. Tell the pupils that "matter" is the term you wish them to use. Now lead them to perceive that "Matter may be separated into parts." Now tell them that this properly is called by a certain term, *Divisibility,* and lead them to develop the definition from the knowledge already possessed. For example, that property of matter which allows it to be separated into parts is Divisibility.

General principle.

The lessons will now appear on the board in the following form:

1. Wood may be separated into parts.
2. Coal may be separated into parts.
3. Glass may be separated into parts.
4. Brick may be separated into parts.
5. Iron may be separated into parts.
6. Cochineal may be separated into parts.
7. Musk may be separated into parts, etc.

General Law.—All matter may be separated into parts.

Definition.—Divisibility is that property of matter which allows it to be separated into parts.

The pupils should memorize the General Law and the Definition. The teacher may give extended information in relation to divisibility, speaking of a grain of musk, of the small portions it throws off, and of various minerals.

The best statement of the advantages of such teaching is found in "How to Teach Natural Science in the Public Schools," 15 cts., by Dr. Wm. T. Harris, Commissioner of Education. Arey's "Laboratory Manual of Experimental Physics," 75 cts., gives minute directions for the construction of inexpensive apparatus.

SCHOOL MANAGEMENT.

School management may be considered under three heads: I. Organization; II. Government; III. Conduct of Recitations.

I. ORGANIZATION.

Purpose of organization.

School organization is a system of arrangement designed to secure constant employment, efficient instruction, and moral control. It aims at providing the means of instructing and educating the greatest number in the most efficient manner, by the most economical expenditure of time and money.

Organization puts each child in its proper place; allots to each class proper work,—proper in kind and amount; secures to each subject the time that is justly its due; arranges the work, both as to place and to kind, so as to preserve a quiet room; and properly distributes the work, so that no interest of the school in any of its parts shall suffer.

Choice of a school.

The young teacher should not select a difficult school at first. Too many teach for the money, and do not consider whether or not they are adapted to particular schools.

Contract.

The contract should be in writing, and express definitely the conditions. Both parties should have a copy. Like all other business, this should be done in a *business-like manner*. It is important that the teacher should know both his rights and

his duties, and he should not begin school without a careful reading of Bardeen's "Common School Law for Common School Teachers."

The first day.

Preparation for the first day's work is all important. The seeds of failure are frequently sown the first hour. The teacher should have a plan in his mind: *just what he will do; how he will do it; and when he will do it.* He should not try to accomplish too much the first day. Let him not be too anxious about courting the favor of pupils—good discipline cannot be established in a day; he should use words expressive of friendly feelings and good intentions; he should not let frowns cloud the brow, although all may not be, at the outset, just as one might wish; he should leave nothing to the impulse of the moment; he should be firm, watchful, and uniform; he should endeavor to make the *first impression* pleasant.

First exercises.

Do not attempt to hear recitations the first morning; after opening the school with a general exercise, let them all join in singing some familiar piece; this will dispel embarrassment. The importance of singing in school as an aid to school government, can hardly be overestimated. The "Song Budget," and "The Song Century" at 15 cts. each are certainly within the means of every school.

Enrolment.

Write on the board the requirements, and pass slips of paper, asking all that can write to hand in the following, viz.:

1. The full name.
2. The full name of parent or guardian.
3. Residence.
4. Age.
5. His studies and classes for the term before.

Let some pupils pass around and take the names, etc., of those who cannot write.

In the highest classes institute a written examination. This can be made a test exercise in spelling, penmanship, and the use of language. The questions need not be difficult; ten questions upon the different subjects will test the knowledge of the pupils as well as twenty. The pupils that cannot write should be examined orally, and record kept of the standing of each pupil. It is not best to make sudden and radical changes; better adopt the classification of your predecessor, if you have not confidence in your own ability. Be especially careful not to find fault with the methods and work of the term before. Choose points to commend, not to criticise.

Classification.

Make all changes gradually and quietly and let the pupils see that they are necessary for the good of the school.

After having graded the pupils, attempt a temporary classification. It will be impossible to classify permanently at first, and the pupils should so understand it.

Forming classes.

There should be not more than four grades in district schools. The primer and the first reader should be the limit of the D grade; the second reader, of the C grade; the third reader, of the B grade; and the fourth reader, of the A grade. The number of classes in each grade should not exceed four, and by *class classification* they need not exceed this number.

The teacher is now ready to draw up the *plan of work*,

specifying the number of classes and the time of beginning, ending, and the length of each recitation. Programme.

The programme should provide for study as well as for recitation. It lessens the labor of teaching, makes the work more effective, promotes good order, cultivates systematic habits, and promotes the ambition of pupils.

While it is well to follow the programme carefully, the organization and discipline must not be too mechanical, or pupils will tire of it. No change in classes should be made for visitors, unless by special request.

Pupils should be seated according to classification, so far as practicable, and graded according to height, the tallest pupils seated in the rear. Movement of classes. The teacher should have the entire charge of seating the pupils, and should change seat-mates when advisable. As a rule it is not best to place pupils of the same temperament together, and seat-mates should understand that if they are disorderly they will be separated. Class movements should be conducted with precision, and no disorder should be allowed in the room. In no instance should the school-room be used as a play-ground, nor should pupils be allowed to deface, destroy, or in any way injure the school property.

As a suggestion to teachers who do not find a programme of work already adopted in school, we give here the Course of Study adopted in 1889 by the Association of Montgomery, Fulton and Herkimer, Counties, N. Y., and approved by the State Superintendent.

FIRST YEAR.

Reading.—Familiar words, phrases, and sentences from blackboard, chart, and books. First Reader begun. Phonics.

Writing.—Copying the reading lessons in script. Names of letters taught incidentally.

Spelling.—All the words in reading lessons and similar ones from dictation.

Numbers.—Counting by 1's to 100 with and without objects. Addition and subtraction by 1's, 2's and 3's to 30 with and without objects.

Physiology.—Body lessons on surface features. The senses and their organs. Cleanliness, alcoholics, and narcotics.

Drawing.—Straight lines, angles, triangles, quadrilaterals, and circles developed from solid forms. See State syllabus. (Page 91 of this volume.)

Object Lessons.—Familiar plants and animals. Cardinal points of compass. Relative positions. Colors of the spectrum.

Recitations.—Golden Rule and ten other character-building gems of literature.

Singing.—Simple exercises and calisthenic songs. The scale by numerals and syllables.

Miscellaneous.—Good manners at school, at home, and on the street.

SECOND YEAR.

Reading.—First Reader completed and Second Reader begun. Punctuation marks and capitals used. Phonics.

Writing.—Reading lessons copied neatly in script. Pupils' and parents' names written, etc.

Spelling.—Oral and written; words taken from reading lessons, and similar ones from dictation.

Numbers.—Notation and numeration to 100,000. Addition and subtraction tables. Dry measures, liquid measure, and long measure taught by use.

Physiology.—Body lessons. Care of eyes, ears, teeth, and general health. Alcoholics and narcotics.

Drawing.—Outlines from models and other objects. See State syllabus.

Object Lessons.—Familiar plants and animals with reference to their parts and their uses. Familiar land and water divisions.

Recitations.—Ten character-building gems of literature, and three longer recitations before the school.

Singing.—Simple exercises and calisthenic songs. The scale by numerals, syllables, vowel sounds, and the letters.

Miscellaneous.—Good manners at school, at home, on the street, etc.

THIRD YEAR.

Reading.—Second Reader completed. Sight reading. Silent reading followed by oral reproduction of the thought. Phonics.

Writing.—Practice exercises with pen and ink for position and movement. Pen-tracing and copying.

Spelling.—Oral and written. All new words from other lessons and first 400 words from spelling-book.

Arithmetic.—Multiplication and division to the 7's. Simple practical problems, mental and written. Develop simple fractions.

Physiology.—Familiar tissues, principal bones and muscles and their uses. Care of health. Alcoholics and narcotics.

Drawing.—Outlines from models and other objects. See State syllabus.

Object Lessons.—Familiar plants and animals and their uses. Geography of school grounds, district and town. Time of day. Months of year.

Recitations.—Ten character-building gems, and three longer recitations before the school.

Singing.—Simple exercises. National and calisthenic songs. Drill upon the scale.

Miscellaneous.—Morals and manners.

FOURTH YEAR.

Reading.—Third Reader. Frequent sight and silent reading. Diacritical marks thoroughly mastered. Pupils use dictionary frequently.

Writing.—Practice exercises for position and movement. Partial pen-tracing. Letter writing.

Spelling.—Oral and written. All new words from other lessons and first 800 words from spelling-book.

Arithmetic.—Multiplication and division completed. Fractions continued. Drill for accuracy and rapidity. Practical, mental, and written problems.

Physiology.—Internal organs and their uses. Care of health. Alcoholics and narcotics.

Drawing.—Outlines of objects. See State syllabus.

Object Lessons.—Familiar garden vegetables and trees and their uses. Geography of county with map of towns. Products of county. Oral lessons on shape of the earth.

Recitations.—Ten character-building gems, and three longer recitations before the school. Easy fables and proverbs.

Singing.—Simple exercises and patriotic and calisthenic songs. The staff, notes, rests, and cleffs copied and analyzed.

Miscellaneous.—Stories from American History, morals, and manners.

FIFTH YEAR.

Reading.—Fourth Reader begun. Frequent sight and silent reading followed by oral and written reproduction of the thought.

Writing.—Drill on capitals, letter-writing, bills, receipts, etc. Copy poetry neatly. Copy-books, Nos. 3 and 4.

Spelling.—First 1,400 words from spelling-book and all new words from other lessons. Drill on words misspelled or mispronounced.

Arithmetic.—G. C. D. and L. C. M. Common and decimal fractions. Frequent drills for accuracy and rapidity.

Geography.—County Map of the State of New York, with railroads, canals, agricultural products, and manufactures. Primary book of the United States.

Language Lessons.—Reproduction exercises, narrations, and descriptions.

Physiology.—Circulation, respiration, and digestion. Pure air and water. Alcoholics and narcotics.

Drawing.—Ten original designs for borders. See State syllabus.

Botany.—Root, stem, and leaf forms; flower clusters and parts of flowers.

Miscellaneous.—Ten memory gems, and three longer recitations before the school. Indians and early discoverers. Morals, patriotism, and singing.

SIXTH YEAR.

Reading.—Fourth Reader completed and best pieces committed to memory. Sight and silent reading followed by oral and written reproduction of the thought.

Writing.—Business forms and compositions. Copy-books Nos. 5 and 6.

Spelling.—All new words from other lessons and first 2,000 words from spelling-book. Rules for spelling. Drill on words misspelled and mispronounced.

Arithmetic.—Compound numbers and review to percentage. Frequent mental exercises for analysis and principles.

Geography.—Primary book completed and reviewed. All maps drawn and boundaries thoroughly mastered.

Language Lessons.—Continue previous year's work. Compositions upon subjects analyzed in class.

Physiology.—The elements of the entire subject thoroughly reviewed.

Drawing.—Ten original designs for borders, etc. Industrial drawing. See State syllabus.

Physics.—Solids, liquids, gases, adhesion, cohesion, elasticity, evaporation, malleability, ductility, reflection, thermometer, ventilation, gravitation, weight, and simple machines.

Miscellaneous.—Ten memory gems, and three longer recitations before the school. Prominent men, places, and events of the United States. Morals, patriotism, singing, etc.

SEVENTH YEAR.

Reading.—Fifth Reader begun. Frequent sight and silent reading followed by oral and written reproduction of the thought.

Arithmetic.—Practical arithmetic to percentage. Special attention given to oral and written analysis.

Geography.—Complete geography reviewed.

Grammar.—Etymology, analysis of sentences, and an abundance of illustrative and constructive work.

Physiology.—Elementary book completed and reviewed.

Civil Government.—School district, village, town, county, and outlines of State and National government.

Zoölogy.—Carnivora, herbivora, birds, reptiles, fishes, amphibia, rodents, flies, spiders, and ants.

Geology.—Kinds of rocks and fossils; water and glacial action, strata, boulders, veins, crystals, coal, iron, gold, marble, slate, granite.

Word Analysis.—500 selected words.

Miscellaneous.—Three compositions upon subjects analyzed by the pupils. Three recitations or declamations given before the school. Morals, patriotism, and singing.

EIGHTH YEAR.

Reading.—Fifth Reader completed and best pieces committed to memory. Sight and silent reading.

Arithmetic.—Practical arithmetic to cube root and review. Special attention given to oral and written analysis.

Geography.—Reviewed by means of State uniform examination questions and Regents' questions. The answers to be written.

Grammar.—The study completed and reviewed. Illustrative and constructive work.

United States History.—Elementary book completed and reviewed.

Chemistry.—Oxygen, hydrogen, nitrogen, carbon, and carbonic acid gas; air, fire, water, soap, matches, yeast, decay, bleaching, glass, iron, and steel.

Astronomy.—Solar system, stars, comets, meteors, asteroids, dipper, pointers, north star, eclipses, phases.

Word Analysis.—500 selected words.

Compositions.—One each month read before the school. Subject previously analyzed by the pupil.

Miscellaneous.—Three patriotic declamations or recitations given before the school. Singing, morals, and patriotism.

II. SCHOOL GOVERNMENT.

The strength or weakness of a teacher is no where more clearly shown than in the government of the school.

How often have I been asked, "Tell me how to govern my school." The subject is the most important that can engage the attention of teachers. It is one that calls for experience, judgment, and wisdom. Every pupil has a conscience, that decides on all actions contemplated or begun—decides whether the act is right or wrong. The fundamental rule is, "Do nothing that your conscience tells you is wrong." This covers the whole ground, and a score of rules will only weaken it. Some consciences are depraved, but few are seared.

Difficulty of government.

For the maintenance of a healthy discipline, it is not necessary that there should be great severity in the punishment of offences.

Firmness is the first requisite to school management; the pupils must understand that the teacher has absolute control, that his authority is supreme; and this in most cases is sufficient in itself to hold the evil propensities of pupils in check.

Firmness.

On the contrary, a lack of firmness will encourage the spirit of revolt, and make necessary frequent resorts to punishment of one kind or another.

School government should be administered in such a way that *it shall be a reign of justice.* The sense of justice is strong even in the case of vicious children. Offences will occur in the best con-

Justice.

ducted schools, but the teacher must discriminate between trivial, aggravated, and flagrant offences.

Children know that disobedience and wrong-doing in general deserve punishment; and providing the degree of punishment does not exceed its just bounds, no feeling of resentment will be cherished toward him who inflicts the penalty.

Do not anticipate offences.

A teacher should not, generally, make a rule until there is *necessity* for it. It should then be enforced, and for a violation of the rule a penalty should be inflicted. Children soon learn to feel contempt for a teacher who does not insist on respectful obedience; they instinctively admire the firmness and decision which metes out to offenders their deserved punishment. Complete success in school management at the outset is not to be expected; only by slow degrees can dexterity in government be attained. Common sense is an important element in management. A noble Quaker once said, "There are three things a man needs to make him successful; first, good health; second religion; and third good sense: if he can have but *one* of these, let it be good sense; for God can give him grace, and God can give him religion, but no man can give him *common sense.*"

Privileges.

But very few special privileges should at first be granted to pupils, such as leaving seats, speaking to one another, asking questions of teachers, making complaint to teachers, receiving help from teachers, etc. After the school is thoroughly organized the teacher may gradually extend them privileges, as he finds it convenient and safe, but at first they are troublesome.

The teacher should be careful not to disgust pupils with learning. Frequently revengeful feelings are excited by requiring children to remain after school hours and commit lines of poetry to memory, or perform long arithmetic examples.

Learning should be a pleasure.

Teachers are sometimes at fault for unlearned lessons on the part of pupils, because they have not told the children what to do or how to do it. If the young understand the nature and object of their work, and the manner in which it should be prosecuted, they will find a pleasure in endeavoring to surmount every apparent difficulty. The work should be represented both as a duty and as a pleasure.

A smile from the teacher lightens the labor of the school, and lessens the burdens of the day. School rooms should be spacious, light and airy,—well ventilated, comfortably heated during winter, and erected in delightful and commanding situations. The walls should be adorned with pictures, mottoes, vines, and ornaments.

A cheerful school.

The school-room should be made homelike as possible, as inviting as public halls. Teachers should frequently exhibit amusing and instructive experiments, and ask the children to assist them. The children should be gratified occasionally with excursions into interesting parts of the country, to view the works of nature and thus increase their love of the beautiful. Scholastic exercises should carry delightful associations.

The principle of emulation should be made subordinate. In an intellectual point of view emulation may be satisfactory to the few that excel; satisfactory to the parents and guardians, who

Do not rely on emulation.

are led to form false estimates of their progress and acquirements by the places they occupy in their respective classes; but it often produces an injurious effect on the moral temperament of the young and on their companions whom they excel.

One grand end of instruction, which has been too much overlooked, is to cultivate and regulate the moral powers—to produce love, affection, concord, humility, self-denial, and other moral graces. But the principle of emulation has a tendency to produce jealousy, envy, hatred, and other malignant passions. Besides it is only a very few in every class that can be stimulated to exertion by this principle, and these few are generally of such a temperament as to require their ambitious disposition to be restrained rather than excited. A material prize is the least effectual mode of accomplishing the desired object; it is founded on injustice, inasmuch as it heaps honors and emoluments on those to whom nature has already been most bountiful.

In the curiosity of children, there is sufficient and natural stimulant of the appetite for knowledge, and we live in a world abounding in the means of useful and pleasurable gratifications.

All that is required of teachers is to aid the faculties with affection and judment. A certificate of diligence and good conduct seems to be all that is necessary to distinguish from the vicious, the idle, the slothful, those who have employed their time and talents in a proper manner.

Avoid whipping.

Corporal punishment, as it is generally administered, is revolting and degrading in its character, and the necessity of resorting to it generally

indicates that there has been a want of proper training in the earlier stages of life. It is vain to imagine that children can be *whipped* into either learning or good conduct; and if an enlightened and judicious mode of tuition were universally adopted there would seldom be any necessity for resorting to such a stimulus. But in the modes of teaching which used to prevail, corporal punishment was inevitable, and in some instances it seems still necessary. When other means of correction have failed and it becomes a choice between whipping and expulsion, whipping is almost always to be preferred. But let the teacher be sure that it is necessary, and that he does not inflict it to gratify an angry feeling of his own.

Plato said, "A teacher should never punish in anger." When reproofs are uttered in passion, and with looks of fury, they seldom or never produce any good effect, and not unfrequently excite a spirit of revenge against the reprover.

A blacksmith brought up his son, to whom he was very severe, to his own trade. The urchin was nevertheless an audacious dog. One day the old vulcan was attempting to harden a cold chisel which he had made of foreign steel, but could not succeed. "Horse-whip it, father," exclaimed the youth, "if that will not *harden* it, nothing will."

A school ought never to serve the purpose of a prison. Classes too young to prepare lessons themselves, should be provided with "busy work" of various kinds. In mild weather they should have frequent recesses, and they should always be dismissed earlier than the older classes.

Make school hours short.

The school should always be not "my" school but "our" school, and teacher and pupils should work together to make it excel.

Insist on attention.

Pupils should be taught to *investigate*, to *study*, to *think*, to *notice* every object within the reach of their vision, and to give an account of what they have seen or heard.

This will induce a habit of attention, without which there can be no solid improvement in any department of instruction. The teacher should not proceed with the exercises of the school until he has the undivided attention of every pupil.

We would commend to every teacher Fitch's little manual "How to Secure and Retain the Attention of Pupils," and Hughes's larger work of similar name.

Over-governing.

Too much government may prove as injurious as too little; both may prove failures. The teacher should govern as little and teach as much as possible. In some schools there is more of government than of teaching. The pupils should understand that in no instance will the teacher stop the recitation to manage a school or discipline a pupil. If the teacher observes that a pupil is disorderly during recitation, he should silently mark him, and attend to the offence during recess or at some convenient opportunity.

All discipline has its spring in the character of the teacher. It depends more on the man than on his means. It is character that imparts efficacy to action.

Character of the teacher.

Character is the source of success or failure in all pursuits. So apparent is its influence in schools that one who had many opportuni-

ties for observing has said that, "a teacher has more need to watch himself than his children, as the evils found in a school are often traceable to some omission, inconsiderateness, hastiness of temper, want of firmness, or absence of principle in himself."

The school becomes a reflector of the teacher, and in every case it will be an accurate reflector. A teacher cannot appear what he is not in the presence of his pupils. The attempt is vain. Their eyes pierce through every disguise.

He must be what he seems, and must seem what he is.

Love, honor, truthfulness, sincerity, consistency, justice, patience, and judgment, must be elements of a teacher's character. Earnestness and cheerfulness are also elements. Earnestness has great influence over children; cheerfulness is sunshine.

Elements of the true teacher.

Sympathy with them in their trials, sports and labors is an element of power; but fear NEVER.

Is there not a lesson prettily expressed in the following:

He who checks a child with terror,
  Stops its play, and stills its song,
Not alone commits an error,
  But a great and moral wrong.

Give it play, and never fear it,—
  Active life is no defect;
Never, never *break* its spirit,—
  Curb it only to direct.

Would you stop the flowing river,
  Thinking it would cease to flow?
Onward it must flow forever,—
  Better teach it *where* to go.

A low voice.

Particularly must it be kept in view by the teacher that quietness in governing is allied with good discipline. A loud voice reiterating commands in an authoritative tone, is often considered favorable to discipline. It is not really so. A quiet way of issuing orders is favorable to quietness of disposition among the pupils. It conveys a double impression—that obedience is expected, and that there is a large reserve force at command, if the teacher should have occasion to use it.

Obedience from the first.

One thing deserving careful consideration is the importance of inculcating the habit of obedience from the first. If children are accustomed from their very earliest school experience to move together in accordance with the fixed signals, the work of discipline is greatly simplified. Simultaneous movements—as in rising, taking seats again, or marching—always contribute to the result in a very pleasing way. We would encourage daily drill in Calisthenics, as well calculated to enforce prompt obedience.

The first thing that a child should learn is *obedience.* All governments and all peoples have regarded filial disobedience with great disfavor. The teacher should supplement the parent's work.

Hints on the Correction of Special Offences.

I. Communication.

1. By suggestion, advice, admonition.
2. By reproof,—make it unpopular.
3. By restraint of personal liberties.
4. By separation of seatmates.
5. By printed reports to parents.

II. Loud Study.

1. Suspend exercises until quiet.
2. Train pupils to study with closed lips.

III. Laughing.

1. By suspension of exercises.
2. Make pupils laugh until weary of it.

IV. Moving Noisily.

1. Train the pupils how to walk, to stand, to sit, and to move.
2. Always admonish them, when a command is violated.
3. Require the pupils to try again, until they do it quietly.
4. Slates should be covered.
5. Let the teacher move quietly himself.

V. Questions During Recitation.

1. Prohibit them.
2. Show their impropriety.
3. Refuse to notice signals.

VI. Litter on the Floor.

1. Encourage neatness.
2. Require the floor to be swept.
3. Inspect the floor in the presence of the pupil, without any remarks.

VII. Writing Notes.

1. Give pupils all the work they can do.
2. Read the notes before the school, omitting names.
3. Ask for the writer.
4. Destroy the notes without reading them.

VIII. Uncleanliness.

1. Send pupils out till they are fit to enter.
2. Send pupils home till they are fit to return.
3. Insist upon cleanliness.

IX. Disorder.

1. Have a place for everything, and everything in its place.
2. Allow no changing of position, without permission.
3. Hold pupils accountable for the care of property.
4. Insist on quiet attention when addressing pupils.

X. Tattling.

1. Point out its impropriety—it leads to gossip and slander.
2. Refuse to notice it.

XI. Quarrelling.

1. Persuade of its sinfulness.
2. Oblige pupils to play alone.
3. Make it unpopular by ridiculing those who engage in it.

XII. Untruthfulness.

1. Find out the cause.
   1. Ignorance.
   2. Thoughtlessness.
   3. Selfishness.
   4. Innate tendency.
2. Point out the effect.
   1. Loss of reputation.
   2. Loss of character.
   3. Loss of conscience.
   4. General demoralization.
3. Cultivate honor.

III. CONDUCT OF RECITATIONS.

As it is considered more important to *digest* what is learned than merely to acquire it, the manner of conducting a recitation becomes of the highest importance. It is to be expected that the pupils carry away with them the habits of mind that the class training engenders. The ability of the teacher to make each recitation a model of the best method of investigating a subject and of expressing the results, is the highest recommendation for the position he holds.

Test of the teacher.

Discipline is only a means, whereas the recitation is an end. A failure here is a failure altogether. It has definite and rational aims to be carefully sought after and earnestly pursued. It is the most delicate part of all the school work. Here the teacher may exhibit skill, tact, and individuality; the inventive powers are to be taxed to their utmost, in order to bring about the desired results.

The object is to develop the powers of the pupils, and this development will be attained in proportion to the ability, capacity, and ingenuity of the teacher.

Object.

The conditions of success in school work are as fixed as the axioms of mathematics. Intense interest, activity, self-reliance, well-directed effort—these are the essential features of all efficient methods. Any method of conducting recitations that embraces these is a good one. Different teachers do not always succeed best with the same method.

Conditions of success.

Adaptation and variety are cardinal principles in education. The safe rule is: *Employ the method which will best enable you to effect the desired results.*

General Suggestions.

I. Essentials.

1. A brief reproduction of the preceding lesson.
2. A brief review of the preceding lesson.
3. Rehearsal and critical examination of the daily lesson.
4. Recapitulation of the daily lesson.
5. Adequate preparation for the advanced lesson.

II. Objects.

1. The development of the faculties.
2. The acquisition of knowledge.
3. Its application to the use of life.

III. Ends.

1. To develop individuality.
2. To encourage originality.
3. To cultivate self-reliance and self-possession.
4. To cultivate sentiments of justice, kindness, forbearance, and courtesy.
5. To nurture the development and the growth of the pupils, physically, intellectually, and morally, and to prepare them for life's service.

IV. Hints.

1. Teach "one thing at a time, and that well."
2. Fix and hold the attention.
3. Develop the power of close observation.
4. Cultivate exact, concise, and ready expression.
5. Aim to increase the attainments of the class.
6. Determine the pupil's habits and methods of study, and correct whatever is faulty in either manner or matter.

7. Ascertain the extent of preparation on the part of the pupil.

8. Encourage. This is important to prevent apostacy —"back-sliding."

9. Give preliminary drill on subsequent lessons showing *what* is to be done and *how* it is to be done. This needs special attention.

10. Hear reports on subjects assigned at previous recitations.

11. Require pupils to answer in full and complete statements.

12. Permit no pupil to speak until recognized by the teacher—the chairman of the meeting.

13. Require the pupil to rise when called upon to recite.

14. Do not yourself recite, or repeat the pupil's answers.

15. Let system, neatness, and accuracy characterize all work.

16. Be ready with criticism, but always give it in the spirit of kindness.

17. Stop the recitation when there is any confusion in the room.

18. Aim to reach general principles.

19. Remember that in primary work the "how" always precedes the "why."

20. Master subjects rather than pages.

21. Remember that mind-training is more important than mere knowledge.

22. Avoid wandering; keep the object of the lesson before you.

23. Avoid leaning in *slavish dependence* upon the text-book.

24. Use judgment in the assignment of lessons.

25. Propound lessons promiscuously.

26. State the question—then call upon the pupil.

27. When the pupil is called upon to recite, permit no interruptions, as speaking without permission, holding up hands, etc.

28. Cultivate honesty in every recitation.

29. Never "show off" pet classes or pet pupils.

30. Do not talk too much about order.

31. Cultivate language in the pupils; let every exercise bear upon the correct use of language.

32. Close recitations promptly.

33. Dismiss the class in order.

34. Be cheerful, active and energetic.

35. Thoroughly master your subjects.

36. "Make haste slowly."

37. Do not yourself remove difficulties, but teach pupils to *overcome,* to *master* them; in all instruction "never remove a difficulty which the pupil has the power to remove."

38. Allow no questions foreign to the recitation.

39. Allow no hesitation during recitation.

40. Give entire time and attention to the recitation.

41. Require expertness in mechanical operations.

42. Comprehend the difference between memory of words and knowledge.

43. Comprehend the difference between "hearing a recitation," and teaching.

44. Always prepare your class in advance of the lesson for any difficulty which may meet them. You may ex-

plain the difficuly orally; you may solve an example, not in the book, which shall meet the difficulty; you may give the class a preliminary drill on the rule, or on a series of more difficult examples under any rule, or in miscellaneous examples under a number of rules. Such preparation, judiciously given, is calculated to keep up the ambition of *all* the class, by removing all excuses for laziness and discouragement.

45. Remember that true education is the forming for life of correct habits of *thinking, feeling,* and *doing.*

V. Requisites.

1. An energetic, intelligent teacher.
2. Comfortable recitation seats.
3. An abundance of blackboard.
4. Apparatus,—such as globes, charts, maps, numeral frame, measures, etc.
5. Reference books.
6. Call-bell.
7. Proper ventilation.
8. Equal temperature.

VI. Preparation by the Teacher.

1. A knowledge of the subject and of the pupils.
2. General preparation, as special as possible.
3. A programme for each day's work.
4. Knowledge how to "use" books without abusing them.

No permanent results can be attained in teaching without *thorough, careful* and *repeated* reproduction of lessons. Reproduction.

After a lesson has been given, and recited by the pupils in the subsequent recitation, they should be re-

quired to restate what they learned in the preceding lesson, using good language and distinct and definite propositions. No questions should be asked by the teacher—and if the work has been done as it should be in the preceding exercise, there will be no need of any.

In primary classes require oral reproduction; in intermediate and senior classes, written reproduction.

Reviews.

In the review the teacher asks questions of the pupils, direct and general; pupils are required to construct tabulations. It is well to let the pupils ask questions of each other—this will inspire the pupils with a desire for study, and make them ready, prompt, and self-reliant.

The teacher should institute weekly reviews, both oral and written.

Rehearsal.

Rehearsal is perhaps the most delicate part of the recitation. So to conduct it that pupils may pass a thorough examination requires skill, judgment, and experience.

The teacher is not expected to render assistance in this division of the recitation; the pupils *must do the work,* and give clear proof of their comprehension of the lesson. If they cannot do it, the teacher is in fault, and not the pupils.

During this part of the recitation, the teacher should not take the time "to recite"; it is the pupils' time. He is a very poor teacher who will do the work that should be done by the pupil.

Summary.

Before the class is excused, let them give the leading, salient points of the lesson—a summary—a digest of the whole.

A great deal of time is lost in the school, because pupils do not know *what* to do or *how* to do it. In all primary classes oral instruction should precede pure recitation. In fact, in all classes, where it is necessary, oral instruction should be given.

Preliminary drill.

The main object of an education is to teach a child self-control—physical, intellectual, and moral. This can be done only through a harmonious develoment of all his powers.

Harmonious development.

Pupils should be so taught in school that they may have a desire to pursue other studies, and may be able to acquire knowledge by observation, investigation, and study. The knowledge imparted should be applied, as far as may be, to practice.

In recitations, the expression of the thoughts which the pupil has acquired by study, should be embodied in his own language.

How far verbatim.

If the lesson contains captions, mathematical definitions, principles or tables, or fixed rules, they should be accurately recited in the words of the author. But they must first be thoroughly understood. The mind should be the depository of thoughts, and not of mere words and signs.

In the class-recitation the pupil should be required to stand erect while reciting. This will give him confidence and self-reliance.

Stand while reciting.

It should not be known beforehand what order will be pursued in conducting the recitation. If called on consecutively, some will be inattentive; if called on promiscuously, the idle and inattentive will be called more frequently.

Fixed order in reciting.

Adaptation to each pupil.

Every teacher must see to it that each pupil is so classified as to be required to perform a full amount of mental labor. "Each mind must be taxed." It is the wise teacher who is able to adapt his treatment and instruction to the wants of each and all.

Do not slight the dull.

Teachers are quite apt to call out the bright, intelligent pupils in the recitation, but they should remember that mere scholarship does not make the man, and not slight those who are dull, slow to understand. It is not brightness that wins in life's long race; it is faithfulness, perseverance, persistence.

These qualities gave success to Nathanial Bowditch, the mathematician; Benjamin Franklin, the philosopher; George Peabody, the philanthropist; and Abraham Lincoln, the statesman.

I would not intimate that scholarly ability is not desirable, but it is not the only test. Long and merited toil is the price of merit. The highest honors of professional life are reached, not by genius, but by *labor*.

Make recitations interesting.

Strive to make the recitation attractive and interesting. This requires thought and professional skill. The teacher should study each lesson before meeting the class, not merely to enable him to understand what he teaches, but to be able so to conduct the recitation that he will awaken and keep alive the interest of his pupils. The grand test of the teacher's ability, and the secret of his success is found in his power to inspire his pupils with earnestness and enthusiasm. To *wake up mind*, is his first and most important duty. A true teacher is alive and in earnest; his heart throbs with tenderness and emotion;

his blood flows freely through his veins, and imparts cheerfulness and vigor to his being. Enthusiasm speaks out in his voice, glows in his countenance, and flashes from his eye. We need in active service more of these *live* teachers; teachers that can bring order out of confusion, light out of darkness, and awake to activity the slumbering powers of the intellect.

The spirit of work.

When superintendent of schools in St. Louis, Wm. T. Harris, LL.D., now comissioner of education, said that listlessness in the school-room might be traced to:

1. Lack of proper ventilation.
2. Lack of equal temperature.
3. Too long recitations for the strength of the pupils.
4. Injudicious and too frequent concert recitations.
5. The practice of "keeping in" pupils at recess or after school for failure in lessons or misbehavior.
6. Lack of definite analysis of the subject of the lesson by the teacher during recitation.
7. Substitution of individual explanation on the part of the teacher for correction (in the class) of bad habits of study.

A lifeless school.

On entering the room of a careless or inexperienced teacher, the visitor is struck by the lifeless atmosphere that seems to pervade both teacher and pupils. The pupils all turn their gaze upon him as he enters and stare abstractedly, forgetful of the presence of the teacher and of the purpose of their attendance at school. The teacher languidly, or with a slight flush of surprise and embarrassment, invites him to a seat. After a little, the pupils settle back into the condition prevailing before the entrance of the visitor.

The pupils at their seats are variously employed: many are leaning over their desks, their faces full of *ennui;* others are endeavoring to relieve the tedium of the slow creeping hour by ingenious devices of their own—pin-traps, spit-balls, picture-books under the desks, writing notes to their fellows, making caricatures on their slates, scratching furniture, telegraphing on a small scale, etc., —some have books open before them, others not; the class that is "on the line" for recitations are leaning against the blackboards behind them, or against the desks in front of them; some are paying attention to the lesson, others are busied with the pupils at their seats. The teacher is distracted and confused.

Take the room as a whole, and the lack of the one spirit that should prevail in it is painful to witness. The almost audible sigh of the whole is: "Oh, that school were out!" The visitor thinks of the Lotus-Eaters and of the "Land in which it seemed always afternoon; all round the coast the languid air did swoon, breathing like one that had a weary dream."

Causes.

The visitor who has come to inspect the school, looks carefully into the methods of instruction and discipline in order that he may discover the primary causes of this failure, and suggest its remedy.

No force in the teacher.

He notes: "This teacher has no force; she has no hold over these pupils; she does not make up her mind at the outset, that she will have *this* and *not that;* she commands incessantly, and does not wait to see whether any command is obeyed; she obviously had not prepared herself on the lesson before coming to school, for, see, she holds the text-book in her hand and is closely confined to the text while she

asks questions; at obvious allusions to the subject of the previous lesson she does not pause to call it up, nor does she illustrate the difficult portions of the lesson for to-day; while she is looking in the book for the next question, a pupil has answered the previous one inaccurately, or has omitted the essential point; she treats the important and the unimportant questions alike; no wonder the pupils are listless!"

But he sees that this phase is not the only one wherein the teacher acts like a novice; in the more general programme similar defects manifest themselves which he notes accordingly:

The class is too large and too much time is taken to hear it; the lesson for the next day is too long, and no directions are given as to how to study it; all those who fail are kept in at recess or after school; some receive individual explanations, and consequently get in the habit of crowding around the teacher's desk, and of depending on her direct assistance. Defective organization.

Added to this, the teacher hears many parts of the lesson in concert, and the consequence is only those portions of the lessons are dwelt upon that are most mechanical, for only such can be recited in concert—discriminating and original answers cannot be given in concert—concert answers must be something *verbatim* and short answers: "Yes, Sir," "No, Sir," "Atlantic Ocean," and the like. Complete answers are made by the smart pupils, while the dull ones follow the lead and join in toward the end of the answer. The bright pupils answer the whole: "Twenty-five thousand miles;" the less bright one says: "Five thousand miles;" and the dull one: "Thousand miles;" Concert recitation.

the dullest comes in at the word "Miles." These pupils have not the power or discipline of mind to concentrate their attention for so long a recitation; they get fatigued before it is through, and listlessness is the result.

Ventilation.

Again: "The ventilation is not attended to, and the impure air causes incipient congestion of the brain, and a few of the delicate ones have headaches, while all feel that apathy and indifference which is its premonitory symptom."

Definite analysis.

"Most important is the failure of the teacher; she does not practise a system of *definite analysis* of the lesson at recitation. She asks probing questions only seldom; the pupil is not made to seize the subject and analyze it till he thoroughly understands it. The consequence is, he does not know how to study the next lesson, nor when he has learned it, and therefore does not study at his seat, having no definite sense of his deficiency and of his ability to overcome it."

Preparation by the teacher.

These causes of failure when generalized may be traced to one prevailing defect on the part of the teacher. And this may be described thus: The teacher fails because she does not pay careful attention to the power for work which her pupils actually possess, and so lay out tasks and *secure their accomplishment* as to increase constantly this power of work. Previous preparation on the part of the teacher is indispensable for this result. Everything should be digested by the teacher before entering the schoolroom; she should *re-enforce the moments by the hours,* and thus be able at all times to bring to bear the entire

weight of her character upon the pupil. The practice of keeping the pupil in at recess for failure in lessons is very baneful in its effects. The cause of the failure is probably owing to inability to concentrate his mind, and here the cure prescribed is calculated to heighten the disease. The teacher should get the lesson into such shape that the pupil can master it by a general assault, and he should not be allowed—at home or in school—to make a dissipated, scattering attack on it.

The country needs school-teachers, not school-keepers. The country needs men and women to conduct rational recitations, not to hear classes. The country needs masters, and mastery is attained only through voluntary and persistent labor. Michael Angelo says: "Trifles make perfection, but perfection is no trifle." The teacher should be watchful, faithful, and prayerful. Then, and not until then, will he attain success in teaching.

METHODS OF INSTRUCTION.

Methods of Teaching.

- *I. Text-book,*
  - *1. Rote, memoriter.*
  - *2. Rational.*
- *II. Oral,*
  - *1. Rote.*
  - *2. Rational.*
- *III. Socratic,*
- *IV. Topic or Subject,*
- *V. Discussion,*
- *VI. Lecture.*

In our schools, all the above methods may be found and many other ways not entitled to the name of method.

The text-book method is by some a much abused method. When teachers simply require the pupils to commit a lesson to memory and

Text-book method.

recite it mechanically, this is an abuse of the method. The subject is one of unusual interest at the present time, for the reason that so much is said and written for and against the so-called "oral" and "text-book" methods respectively. While on the one hand the text-book method is stigmatized as a dead mechanical memorizing of the words in the book and then a parrot-like repetition of the same to the teacher, who sits behind the desk and looks on the book to see that the lesson is given verbatim, on the other hand the oral system is accused of relieving the pupils from the necessity of study; of throwing all the work upon the teacher.

Memoriter recitations.

No doubt there are legions of unskilful, untrained or negligent teachers in the country. Indeed, they far outnumber the skilful and painstaking—and it is hardly fair to judge the methods they employ when they misuse the position and the instruments placed in their hands so far as to make the text-book a procrustean bed and the recitation a benumbing process to the faculties of the child. The mere memorizing of the context is no index to the understanding of it. A school-mistress once said to a little girl: "How is it, my dear, that you do not understand this simple thing?" "I do not know, indeed," she answered, with a perplexed look; "but I sometimes think I have so many things to learn that I have no time to understand."

Unskilled teachers.

It is not best to condemn a method that has been in use for hundreds of years, because *all* cannot attain good results. But systems should not have their merits adjudged by their results in the hands of bunglers; they

should be compared in their results as achieved at the hands of those who have *mastered* the methods. A system is not responsible for the failure of those who do not follow out its principles.

Grand results have been attained with the text-book method, by adopting the rational method of recitation, —appealing to reason, to a *proper understanding of the context before memorizing*. The latter is insisted on by all rational teachers.

The oral method is distinctively German, and like the text-book method has its friends and foes. In some schools the teachers lecture before the children, and require them to reproduce the exact language of the lecture. In this case it is as much a rote or memoriter exercise as the text-book method. Oral method.

In other schools, the teachers ask suggestive questions, —they excite the pupils' curiosity, awaken the mind and easily hold the attention. The pupils do the work, and infer the answers through their powers of perception. This is real education. This is the rational oral method.

The best method is a philosophical combination of the oral and the text-book methods—uniting the merits and rejecting the faults. Oral methods predominate properly in American primary schools; text-book methods in secondary schools and colleges; and we return again to oral methods, or lectures, in the professional schools. The true place for oral methods is in preparatory work. Oral instruction should lead to and prepare for the text-book. The combined method.

The best work in American schools is found in a judicious combination of both methods. Oral instruction

alone, if carried through a course of instruction, even if teachers are prepared to give it, is not the best method. It should lead to a mastery of other thoughts than those on the printed page. The most effective teaching uses both the oral and text-book methods. If used properly, oral teaching will teach the pupils how to investigate. Oral instruction, in its results, is of the highest importance to American citizenship. Young children have few ideas, for they have heard little, read little, and their observation has not been developed.

Oral instruction takes a more permanent hold of the mind than memorizing from books. It affords the learner an opportunity to ask questions as the lesson proceeds, and gives the teacher the entire control of the youthful minds that lie fallow before him. It opens also a field for enthusiasm in teaching and learning, where everything with some teachers is mere drudgery. It would give life where there is nothing now but worn and worthless machinery in our public schools.

Children are often made to commit to memory names and dates and rules, without a proper understanding of them. The text-book becomes the real instructor, and not the *living* man or woman who should impart instruction.

We would not discard the text-books entirely, neither would we exclude them.

The proper place for oral instruction is in the primary department; and in other classes the oral instruction should be of such a character as *to prepare the pupils for study*, so that no time may be wasted.

Pupils should be made to study their text-books; learn short lessons; be asked by their teachers not only

the questions in the books, but others that will test their knowledge and awaken their interest.

Some pupils learn readily from their text books, and get along with a little explanation. Some are more dull and need the stimulus of recitation, of questions and answers, and of illustrations.

By skilful questioning the pupil is led to discover the truth, and trained to think. Subjects are developed from the standpoint of the learner. Socratic method. The teacher stimulates and directs, but never crams. Pupils are encouraged to present their own thoughts. If correct, the teacher deepens and widens their views by suggestive illustrations. If incorrect, the absurdity is shown by leading the pupils to discover the legitimate consequences. Thus the burden of thought and research is thrown upon the learner, who, at every step, feels the joy of discovery and victory, and the conscious pleasure of assisting the teacher. Such teaching results in *development, growth,* and *education.* "The exercise of the child's own powers, stimulated and directed, but not superseded, by the teacher's interference, ends both in the acquisition of knowledge and in the invigoration of the powers for future acquisition."

In this method the pupils are trained to tell consecutively their own thoughts. The art of connected discourse is essential; hence by our best teachers the topical method is made the *basis* of the recitation. Topical method. This should be required of every class in school, whenever the subject will admit of it. No other method can so easily secure the results to be accomplished. Pointed, searching questions are asked whenever necessary, and instruction is given in the Socratic

method. At any moment any member of the class is liable to be called on to explain a difficulty, to answer a question or to continue a topic. Thus life, vigor, undivided attention, and effective individual effort are secured and maintained throughout the recitation.

Prompting, in all its forms, is inartistic and pernicious. The aim is to train the pupils to habits of *independent expression,* as well as independent thought. The exclusive use of the topic method is an extreme to be studiously avoided, as it excludes instruction and fails to elicit the intense interest and the earnest effort of every member of the class. It should have a limited use in the primary department, more extended in the intermediate and senior departments. In the primary classes, the terms may be developed individually, and written on the board, thus forming a complete tabulation and classification.

The pupils should be required to review the terms written on the board, without any assistance from the teacher.

In intermediate and senior classes, the pupils should be taught to tabulate and classify, and recite from the tabulation.

Discussion method.

Briefly and pointedly pupils present their arguments in favor of their respective positions. Criticisms are urged and answered. Every point is sharply contested. The reasons for and against are carefully weighed.

Educationally the discussion method stands high. It is like the interest excited in debate; in these mental conflicts, the utmost power of the pupil is put forth.

There is no better way to cultivate independence, self-assertion, liberality, and the habit of treating an opponent courteously and fairly. The discussion method supplements the Socratic and topic methods. It breaks up monotony, dissipates stupidness and insipidity.

From the primary school to the university this method may be used with incalculable advantage; but in all cases it must be kept well under the control and direction of the teacher.

Perhaps there is no method that will excite greater interest than this rational method. There is less examining, less artificial training and more solid development. The discussion method is pre-eminently the method to make *thinking men* and *thinking women.*

Lecture method.

Lecturing is another method of instruction which has its uses and abuses. A lecture by the teacher should never be substituted for a recitation by the class. Many teachers suppose that the measure of their ability as instructors is the power they have to explain and illustrate before their classes, and hence spend most of the time assigned to recitation in the display of their own gifts of speech. But in the recitation room the *good* teacher has but little to say. Her ability is tested more by her silence than by her loquacity; by her power to arouse and direct the activity of her pupils, more than by her own actions. In professional schools and in the advanced classes in colleges, the time for recitation is largely spent in this way. The lecturer outlines the subjects, suggests the fields of research, indicates the line of thought, gives much information, and stimulates the pupils to effort. If the

student, by long continued effort makes the lecture his own, great will be the results.

But nowhere in this country has the lecture method alone given entire satisfaction. It has been found necessary to institute oral and written examinations in order to make it effective.

The conversational lecture gives results. The class by skilful questions are led into rich fields of thought. Topics are discussed by the teacher and the pupils. Questions are asked that produce thought; experiments are performed that elicit attention; pupils are led to draw inferences from what they perceive. This method was admirably used by the wise Socrates, Plato, and Aristotle. From these great masters modern teachers may learn important lessons.

The lecture method is utterly out of place in primary classes. Wherever it has been used it proves a failure.

Whenever a teacher gives a lecture to her pupils, she should require them to take notes, and recite after every formal lecture. It is well for the teacher to write on the board a tabulated classification, and require the pupils to copy.

General Remarks.

Whatever method the teacher may follow, ONE end should be attained: the best possible development of *true manhood and womanhood.* The inquiry may rise, what is the end of study, recitation, and instruction?

Not the attainment of knowledge, but *discipline*—POWER. It is undoubtedly a fact that "secular education will make a good man better, but a bad man worse."

Education, then, is not the storing of knowledge, but the development of power; and the law of development is thorough exercise.

Any system of education, therefore, which weakens the motive or removes the necessity of *laborious thinking* is false in theory and ruinous in practice.

There is only one way to acquire knowledge, and that way is through study—the *voluntary* and *continual* application of the mind to a subject.

Laws of Questioning.

1. Questions should be clear and concise.
2. Questions should be to the point.
3. Questions should be adapted to the capacity.
4. Questions should be logical.
5. Questions should not be ambiguous.
6. Avoid questions that give a choice between two answers.
7. Avoid direct questions.
8. Avoid set questions.
9. Avoid general questions.
10. Avoid questions that simply exercise the faculty of memory.

Objects of Questioning.

1. To find out what the pupils know.
2. To ascertain what they need to know.
3. To awaken curiosity.
4. To arouse the mind to action.
5. To illustrate; to explain,—when necessary.
6. To impart knowledge not found in the text-book.
7. To fix knowledge in the mind.
8. To secure thoroughness.

Cautions to be Observed in Questioning.

1. Ask questions only once.
2. Vary the questions.
3. Begin the exercise with an easy question.
4. Let your questions be connected.
5. When a question is asked do not suggest the first words of the answer.
6. Enunciate every question with distinctness.
7. Anticipate answers; arrange suggestive questions.
8. Never neglect or ridicule an answer.
9. Never tell a child what you could make that child tell you.
10. Question the lesson *into* the minds of the pupils, and question it *out* again.
11. Lead the pupil by a pleasant question to discover his own mistake, instead of directly charging him with it.

General Suggestions.

1. Show the necessity of a subject before you begin to teach it.
2. Require one subject to be understood before taking up another.
3. Require everything that is taught to be reproduced by the pupils.
4. Always take up subjects in their logical order.
5. That which is attempted should be thoroughly mastered.
6. Remember that all the powers are developed by being judiciously and vigorously exercised.
7. Remember that knowledge is of little value unless it can be utilized.
8. Remember that a lesson is not given until it has been received.

Special Suggestions to Young Teachers.

1. Make weekly or bi-weekly inspections of all books held by the pupils, holding each responsible for the right use of the same. This will prevent much mutilation and destruction of books. Inspection of books.

2. In the class-room teachers should not confine the attention of the pupils exclusively to what is found in the books. "Books are but helps," or instruments; and while that which is contained in them should be judiciously used and thoroughly understood, yet, so far as time will permit, the teacher can with advantage introduce such matters as are not only valuable in themselves, but will tend to impress the subject of the lesson more firmly upon the mind. Outside information.

3. Be judicious and sparing in awarding credit or discredit marks; to be lavish, would render them cheap and comparatively valueless. Judicious marking.

4. Before reproving delinquents in recitation, first inquire whether or not they have studied, and, if so, what effort has been made. Some pupils may devote much time and labor to the acquirement of their lessons, and yet in the class room be weak in their recitation; to denounce such would discourage rather than stimulate. Credit honest effort.

5. During a recitation, the attention of *all* should be engaged upon the lesson or subject under consideration. Ensure attention.

6. When a pupil applies for assistance on any question, do not accomplish the whole yourself, nor send him away entirely unaided; but after he has studied the subject faithfully, present to Give help but not too much.

him one or two of the leading principles involved, and then leave him to develop the matter himself. *Too much aid is sometimes worse than too little.*

The teacher's preparation.

7. Before entering on the duties of the day, the teacher should be thoroughly conversant with the subject of each lesson. A teacher, while conducting a recitation, *should never be obliged to refer to the book or map* for the purpose of ascertaining whether or not the pupil is correct in his answer. Besides displaying a weakness on the part of the teacher, there arises in the mind of the pupil the query—why should I study what my teacher does not know?

The teacher should be first well acquainted with the true answer to every question, and the correct pronunciation of every word in the several lessons. It will be seen that many advantages attend this plan; the chief of which are—much time is saved, the teacher instructs with more facility and success, and the pupil, observing the familiarity of the teacher with the several subjects, feels for him and for the subjects a greater respect.

Be patient but allow no guess-work.

8. In hearing a lesson, give the pupil time to answer when he appears to have a correct idea, and merely hesitates to find words to express himself; but when it is evident that he is ignorant of the answer, waiting is but a loss of time.

Ideas, not words.

9. Be sure the pupils have gained IDEAS. Words, without ideas, clog the mind.

Push forward.

10. A teacher taking charge of a new class, should at first advance it beyond the farthest point it had previously attained in each study. In case the teacher finds the new class deficient in what has been passed over, he should not turn back until

about two weeks have elapsed, when all necessary reviews may be made. When a class passes under the control of another teacher, a sudden retrograde movement would produce discontent in the class. At all times, the teacher should avoid allusion tending to disparage the course of his predecessor in the estimation of the class.

11. The hearing of the class should not occupy more than one hour and a half daily, the remainder of the day being devoted to *actual teaching*, when the lessons for the following day may be explained by the teacher. Answering in concert should be little used.

Reciting vs. teaching.

12. Whenever practicable, teach by means of objects, or through the medium of the eye; in geography, use globes and maps; in astronomy, use orrery, globes, and diagrams; in spelling, frequently require the pupils to write the words or sentences given.

Employ the eye.

13. If you would have no drones in your school, talk at each recitation to the dullest in your class, and use all your ingenuity in endeavoring to make him comprehend. The others, then, will be sure to understand.

Work most with the dullest.

14. Make each exercise as attractive as possible. Think out your methods beforehand, and illustrate freely.

Illustrate freely.

15. Cultivate self-control; never be led into confusion, and above all be in earnest.

Be earnest.

16. Be cheerful and smile often. A teacher with a long face casts a gloom over everything, and eventually chills young minds and closes young hearts.

Be cheerful.

17. Use simple language when you explain lessons. Long words are thrown away in the school-room.

Simple language.

18. Thoroughly test each pupil on the lesson, and do not be afraid of repetition. Review every day, or much will be lost. Do not try to teach too much; better teach a little and teach it well.

Frequent reviews.

19. Endeavor to make the pupils understand the meaning of what they study. Probe the matter to the bottom, and get at the real knowledge of your scholars. Cultivate the understanding, and do not appeal to the memory alone. Lay the foundation of knowledge firmly and well.

Make them understand.

20. Impart right principles and lead your pupils to a higher level, to a nobler range of thought. Endeavor to accomplish all that skill, intelligence, and love can suggest.

Aim high.

What now you do, you know not,
But shall hereafter know,
When the seed which you are sowing.
To a whitened field shall grow.

'Tis a rich young soil you're tilling;
Then scatter the good seeds well;
Of the wealth of the golden harvest
Eternity will tell.

21. Teach your pupils to fight manfully in the warfare of good against evil, truth against error; and above all, let the eternal principles of right and wrong govern your own life, and form a part of your own character. If you do this, you will "sow beside all waters, and eventually bring home your sheaves rejoicing."

Set a noble example.

22. Train the eye to perceive correctly, the ear to understand correctly, the hand to execute correctly, the tongue to speak correctly, and the mind to retain correctly. "Begin at the beginning." "Follow a natural order." "Classify knowledge." "Master principles." Final maxims.

A WORD IN CONCLUSION.

To Commissioners and Superintendents.

Upon you rest, to a great extent, the success of the school and the advancement of the educational interests of this country.

It is by the recommending and licensing of competent and efficient teachers that you are the most successful in promoting the interests of your charge. Let the teachers recommended by you be selected more with reference to social culture, *exalted moral character*, to the development of *true manhood* and *womanhood*, than to either scholarship or talent. This you can do by selecting and recommending only such persons as shall illustrate in their lives the moral lessons which should be set as an example in schools.

You stand pledged to further the interests, not only of literature and science, but of the highest type of morality.

If you would redeem this pledge you will not license as a teacher any one who violates the laws of moral purity, who gives to social dissipation the hours that belong to sleep, or who indulges in any practice of vice. A *sacred trust* is committed to you, which, if faithfully and wisely discharged, will make your own day beautiful, and scatter blessings along the pathway of coming years.

To Teachers.

An experience of thirty years in the field of education has secured principles and conclusions which may be considered not theories, but facts. One fundamental fact thus gained is, that the school should be an appendage of the family, fitted to train the ignorant and weak by self-sacrificing labor and love, and to bestow the most attention on the weakest, the most undeveloped, and the most sinful.

Help the weaker.

It is exactly the opposite course to which teachers are most tempted. The bright, the good, the industrious, are those whom it is most agreeable to teach, who win most affection, and who promote the reputation of a teacher, and of a school or a college.

To follow this principle, then, demands more clear views of duty and more self-denying benevolence than ordinarily abound.

Another is, that both quickness of preception and retentiveness of memory depend very greatly on the degree of interest excited. Hence the importance of educating young persons with some practical aim, by which, in case of poverty, they may support themselves.

Importance of interest.

Another is, that there is no other knowledge so thorough and permanent as that gained in teaching others.

Knowledge by teaching.

Repeatedly has it been observed that a lesson or a problem supposed to be comprehended was imperfectly understood, and became clear and only in attempts to aid others in understanding it. In no other profession is the sacred promise, "Give and it shall be given unto you," so fully realized as in that of a teacher.

Few subjects at a time.

Another is that in acquiring knowledge but few branches should be taken at one time, and these should be associated in their character, so that each is an assistance in understanding and remembering the others.

There is a great loss of time and labor in the common method of pursuing four or five disconnected branches of study.

The mind is distracted by variety, and feels a feeble and divided interest.

In many instances, the method of cramming the mind with uninteresting and disconnected details serves to debilitate rather than promote mental power. The memory is the faculty chiefly cultivated, and this at the expense of the others.

In government be gentle yet firm; not anxious to govern in those things that are innocent and harmless, but to restrain practices that are unquestionably immoral by the exercise of all the authority with which you are invested.

In order that you may worthily discharge the duties which thus confront you at the threshold of your field of labor, it is of the first importance that your own habits of thought and life be wholly correct.

No one is fit to govern others until he has learned to govern himself. Self-government and self-restraint are impossible without intelligence and virtue.

The task of the teacher is one of great responsibility and labor.

It is easier for a general to command an army than for a teacher to govern a school; for a general has to

deal with and consider only immediate results, besides being invested with absolute power, while the teacher has to consider chiefly results to be attained in the future, and he is forbidden by the consideration of his own and the pupil's welfare to exercise other than qualified power.

Then the military commander trains his soldiers to wield weapons only against material fortifications, while the teacher is to discipline those under his control in the skilful use of the mental and moral powers, and prepare them to contend successfully against superstition begotten of ignorance, against habits of thought and action that reach their root far back in the centuries, and "against spiritual wickedness in high places." Hence great statesmen and victorious generals are of little value in any country without efficient teachers.

To our public schools we must look for those who will be called upon to manage the affairs of families, to transact the business of town and of State, to fill the vacated bench of justice, to sit in the halls of legislation, and to direct and control the church of God.

Upon the character of our schools and teachers, therefore, depends the weal or woe of unborn millions, the prosperity or downfall of our boasted institutions.

As the concluding thought teachers and friends, may we all bear in mind that our life in this world is but the preparatory department in the School of God.

Let us be so attentive to the lessons given us by the Great Teacher, that when the day of examination with us severally shall come, we may hear the glad welcome "well done," and at last gather beyond the River, under

the cloudless sky undimmed by the shade of night, there to renew our search for knowledge and our labors of love, with immortal faculties that are least weary when most employed.

Instruction in Citizenship.

1. Civil Government for Common Schools, prepared as a manual for public instruction in the State of New York. To which are appended the Constitution of the State of New York as amended at the election of 1882, the Constitution of the United States, and the Declaration of Independence, etc., etc. By HENRY C. NORTHAM. 16mo, cloth, pp. 185. 75 cts.

Is it that this book was made because the times demanded it, or that the publication of a book which made the teaching of Civil Government practicable led to a general desire that it should be taught? Certain it is that this subject, formerly regarded as a "finishing" branch in the high school, is now found on every teacher's examination-paper, and is commonly taught in district schools. Equally certain is it that in the State of New York this text-book is used more than all others combined.

2. A Chart of Civil Government. By CHARLES T. POOLER. Sheets 12x18, 5 cts. The same folded, in cloth covers, 25 cts.

Schools using Northam's Civil Government will find this chart of great use, and those not yet ready to introduce a text-book will be able to give no little valuable instruction by the charts alone. Some commissioners have purchased them by the hundred and presented one to every school house in the county.

3. Handbook for School Teachers and Trustees. A manual of School Law for School Officers, Teachers and Parents in the State of New York. By HERBERT BROWNELL. 16mo, leatherette, pp. 64. 35 cts.

This is a specification of the general subject, presenting clearly, definitely, *and with references*, important questions of School Law. Particular attention is called to the chapters treating of schools under visitation of the Regents—a topic upon which definite information is often sought for in vain.

4. Common School Law for Common School Teachers. A digest of the provisions of statute and common law as to the relations of the Teacher to the Pupil, the Parent, and the District. With 500 references to legal decisions in 28 different States. 14th edition, wholly re-written, with references to the new Code of 1888. By C. W. BARDEEN. 16mo, cloth, pp. 120. 75 cts.

This has been since 1875 the standard authority upon the teacher's relations, and is frequently quoted in legal decisions. The new edition is much more complete than its predecessors, containing Topical Table of Contents, and a minute Index.

5. Laws of New York relating to Common Schools, with comments and instructions, and a digest of decisions. 8vo, leather, pp. 867. $4.00.

This is what is known as "The New Code of 1888," and contains all revisions of the State school-law to date.

6. The Powers and Duties of Officers and Teachers. By ALBERT P. MARBLE. 16mo, paper, pp. 27. 15 cts.

A vigorous presentation in Sup't Marble's pungent style of tendencies as well as facts.

7. First Principles of Political Economy. By JOSEPH ALDEN. 16mo, cloth, pp. 153. 75 cts.

Ex-President Andrew D. White says of this book: "It is clear, well arranged, and the best treatise for the purpose I have ever seen."

C. W. BARDEEN, Publisher, Syracuse, N. Y.

Books for Young Teachers.

1. Common School Law for Common School Teachers. A digest of the provisions of statute and common law as to the relations of the Teacher to the Pupil, the Parent, and the District. With 500 references to legal decisions in 28 different States. 14th edition, wholly re-written, with references to the Code of 1888. By C. W. BARDEEN. 16mo, cloth, pp. 120. Price 75 cts.

The reason why the teacher should make this his first purchase is that without a knowledge of his duties and his rights under the law he may fail either in securing a school, in managing it, or in drawing the pay for his services. The statute provisions are remarkably simple and uniform. The decisions of the Courts, except upon two points, here fully discussed, follow certain defined precedents. An hour to each of the eleven chapters of this little book will make the teacher master of any legal difficulties that may arise, while ignorance of it puts him at the mercy of a rebellious pupil, an exacting parent, or a dishonest trustee.

2. Hand-Book for Young Teachers. By H. B. BUCKHAM, late principal of the State Normal School at Buffalo. Cloth, 16mo, pp. 152. Price 75 cts.

It anticipates all the difficulties likely to be encountered, and gives the beginner the counsel of an older friend.

3. The School Room Guide, embodying the instruction given by the author at Teachers' Institutes in New York and other States, and especially intended to assist Public School Teachers in the Practical Work of the School-Room. By E. V. DEGRAFF. *Thirteenth edition*, with many additions and corrections. 16mo, cloth, pp. 398. Price $1.50.

As distinguished from others of the modern standards, this is a book of *Methods* instead of theories. It tells the teacher just what to do and how to do it; and it has proved more practically helpful in the school-room than any other book ever issued.

4. A Quiz-Book on the Theory and Practice of Teaching. By A. P. SOUTHWICK, author of the "Dime Question Books." 12mo, pp. 220. Price $1.00.

This is one of the six books recommended by the State Department for study in preparation for State Certificates. The others are Hoose's *Methods* ($1.00), Hughes's *Mistakes* (50 cts.), Fitch's *Lectures* ($1.00), Page's *Theory and Practice* ($1.25), and Swett's *Methods* ($1.25). We will send the six post-paid for $5.00.

5. Mistakes in Teaching. By JAMES L. HUGHES. American edition, with contents and index. Cloth, 16mo, pp. 135. Price 50 cts.

More than 15,000 have been used in the county institutes of Iowa, and elsewhere superintendents often choose this book for their less thoughtful teachers, assured that its pungent style and chatty treatment will arrest attention and produce good results.

6 How to Secure and Retain Attention. By JAMES L. HUGHES. 16mo, cloth, pp. 97. Price 50 cts.

This touches attractively and helpfully upon the first serious difficulty the teacher encounters. No young teacher should neglect these hints.

7. Primary Helps. A Kindergarten Manual for Public School Teachers. By W. N. HAILMANN. 8vo, boards, pp. 58, with 15 full-page plates. Price 75 cts.

In these days, no primary teacher can afford to be ignorant of "The New Education," and this is perhaps the only volume that makes kindergarten principles practically available in public schools.

8. Dime Question Book, No. 4, *Theory and Practice of Teaching.* 16mo, paper, pp. 40. Price 10 cts. By A. P. SOUTHWICK.

A capital preparation for examination.

C. W. BARDEEN, Publisher, Syracuse, N. Y.

The Five Great English Books.

The recognition of Teaching as a Science was much earlier in England than in this country, and the five books which are there recognized as standards, have probably no equals in soundness and scope. Hence they are usually the first books adopted by Reading Circles, and are indispensable to the library of an intelligent teacher. These are:

1. *Essays on Educational Reformers.* By ROBERT HENRY QUICK. Cloth, 16mo, pp. 330. Price $1.50; or special edition, thinner covers, price $1.00.

This is altogether the best *History* of Education. "With the suggestion that *study should be made interesting*," writes Principal Morgan, of the Rhode Island State Normal School, "we most heartily agree. How this may be done, the attentive reader will be helped in learning by the study of this admirable book."

2. *Lectures on Teaching.* By J. G. FITCH. New Edition with a Preface by an American Normal Teacher. Cloth, 16mo, pp. 393. Price $1.25.

This forms the proper *Basis* for pedagogical knowledge, beginning with the teacher, the school, and the school-room, and giving the *why* as well as the *what*. We publish in our "School Room Classics" the "Art of Questioning," and the "Art of Securing Attention," by the same author, at 15 cents each.

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The student is now ready to take up the *Science* of Education, which is nowhere else so brilliantly and effectively presented. The lectures are singularly fascinating, and the full analysis and indexes in this edition make it easy to collate and compare all that the author has uttered upon any topic suggested.

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5. *Introductory Text-Book to School Education, Method and School Management.* By JOHN GILL. Cloth, 16mo, pp. 276. Price $1.00.

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C. W. BARDEEN, Publisher, Syracuse, N. Y.

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This register gives lines on each of 12 pages for 29 names, and *by a narrow leaf* puts opposite these names blanks for one entry each day for either 14 or 20 weeks, as desired, with additional lines for summary, examinations, and remarks. Nothing can be more simple, compact, and neat, where it is desired simply to keep a record of attendance, deportment, and class-standing. It is used in nearly two-thirds of the union schools of New York.

2. The Peabody Class Record, No. 1, with 3 blanks to each scholar each day for a year. Boards 4½x9½, pp. 100, $1.00. No. 2, with 5 blanks to each scholar, 8x11, $1.50. Like No. 1, but gives 3 or 5 blanks each day.

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The use of millions of these Aids, with the unqualified approval of teachers, parents, and pupils, is assurance that they are doing great good.

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9. Mottoes for the School-Room. By A. W. EDSON, State Agent of Massachusetts. Per set of 12 on heavy colored card-board 7x4 inches, printed on both sides, $1.00, post-paid, $1.10.

These mottoes are "Never too Late," "Above all, be Useful," "Dare to Say No," "God Bless our School," "Avoid Anger," "Be Good, Do Good," "Think, Speak, Act the Truth," "Fear to Do Wrong," "Misspent Time is Lost Forever," "Speak the Truth," "Act Well Your Part," "Strive to Excel," "Try, Try Again," "Be Diligent, Prompt, and Useful," "Think Good Thoughts," "Learn to Study," "Before Pleasure Comes Duty," "Think First of Others," "Dare to Do Right," "Order is Heaven's First Law," "A Will Makes a Way," "Study to Learn," "Hold Fast to Honor," "God Sees Me."

C. W. BARDEEN, Publisher, Syracuse, N. Y.

Official Question Books.

1. The New York State Examination Questions from the beginning to the present date. Cloth, 16mo, pp. 274, 50 cts.

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No answers are published, except in the following special volume.

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June, 1888,	*School Law*,	34	Questions	and	Answers.
July, 1888,	*Arithmetic*,	167	"	"	"
Aug., 1888,	*Geography*,	385	"	"	"
Oct., 1888,	*Grammar*,	328	"	"	"
Nov., 1888,	*Physiology*,	250	"	"	"
Dec., 1888,	*Am. History*,	301	"	"	"

4. The Civil Service Question Book. Cloth, 16mo, pp. 282, $1.50,

42,000 places are now filled exclusively by appointments dependent on examinations. No favoritism is possible. You do not need the influence of Congressman or of politician. You have only to learn when the next examination is held, apply for the necessary papers, present yourself, and answer the questions asked. The appointments are made from those who stand highest, and are open to women as well as to men. All the particulars as to these examinations, the places and dates where held, and how to apply, are here given with 943 specimen questions in *Arithmetic*, 575 specimen questions in *Geography*, 400 specimen questions in *English Syntax*, 100 each in *American History* and *Civil Government*, with full treatises on *Book-Keeping* and on *Letter-Writing*. To prepare for competition for places at $1,000 and higher these subjects *and these only* are required. Any one who can answer the questions here given, *to all of which full and complete answers are added*, is ready to enter the next examination.

Hon JOHN B. RILEY, Chief Examiner, State of New York, July 10, 1888, says: "I am pleased with your Civil Service Question Book. It will not only be of service to those intending to try the Civil Service examinations, but teachers or others who are obliged to prepare questions for examinations in the common English branches will find it a great convenience."

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OTHER QUESTION BOOKS.

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Blackboard Material.

No feature of the school-room is of more vital importance to the health of scholars and teachers than the Blackboard. If it be gray or greasy the amount of chalk used fills the air with dust, which produces catarrhal and bronchial difficulties, and yet makes so faint a mark that the children's eyes are permanently injured. Choice should be made among the following materials.

1. Solid Slate. This is durable, but costs from 30 to 50 cts. a square foot, is noisy, not black enough in color, and unhealthful because there is commonly used upon it the softest crayon. Where solid slate is already in, we recommend the Slate Pencil Crayon, as the only preventive of serious disease.

But it is better to put either upon the plastered wall, or upon the wall covered with manilla paper, or upon wooden boards, one of the following preparations.

2. Agalite Slating. This is the cheapest of all, may be sent by mail, and usually gives fair satisfaction. Price, *post-paid*, for box to cover 400 feet, one coat, $6.00; 200 feet, $3.25; 100 feet, $1.75; 50 feet, $1.00. We furnish the *Black Diamond* or *Silicate Slating* at the same price, but it can be sent only by express.

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Arithmetic by the Grubé Method.

1. First Steps among Figures. A drill book in the Fundamental Rules of Arithmetic. By LEVI N. BEEBE. Cloth, 16mo, 3 editions. *Pupils' Edition*, pp. 140, 45 cts. *Oral Edition*, pp. 139, 50 cts. *Teachers' Edition*, including all in both the others, with additional parallel matter, Index, and Key, pp. 326, $1.00.

These books give the only practical exposition of the *Grubé Method*, now generally admitted to produce the best results with beginners. It has been used ten years in the primary schools of such cities as Norwich, Conn., and Auburn, N. Y., and for many years *every student* in the Albany State Normal School has been directed to purchase a copy to take with him for his subsequent use in teaching.

From a multitude of testimonials we copy the following:

"We are still successfully using Beebe's *First Steps*. It has many admirable qualities."—*Sup't N. L. Bishop, Norwich, Conn.*

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"I am much pleased with the book, and wish every primary teacher to have a copy."—*Sup't J. M. Frost, Hudson, N. Y.*

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"I consider Beebe's *First Steps* the best work of the kind that I have ever seen, and I take every opportunity to recommend it."—*Mary L. Sutliff, Haiku, Maui, Hawaian Islands, Feb. 9, 1888.*

2 The Pestalozzian Series of Arithmetics. Teachers' Manual and First-Year Text-Book for pupils in the first grade. Based upon Pestalozzi's method of teaching Elementary Number. By JAMES H. HOOSE. Boards, 16mo, 2 editions. *Pupils' Edition*, pp. 156, 35 cts. *Teacher's Edition*, containing the former, with additional matter, pp. 217, 50 cts.

This is a practical exposition of the *Pestalozzian Method*, and has met with great success not only in the Cortland Normal School, where it was first developed, but in many other leading schools, as at Gloversville, Babylon, etc. It is diametrically opposed to the Grubé Method, and good teachers should be familiar with both, that they may choose intelligently between them.

3. Lessons in Number, as given in a Pestalozzian School, Cheam Surrey. The Master's Manual By C. REINER. 16mo, pp. 224. $1.50.

This work was prepared in 1835 under the supervision of Dr. C Mayo in the first English Pestalozzian school, and has particular value as representing directly the educational methods of the great reformer.

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Useful Appliances in Arithmetic.

1. *The Word Method in Number.* A series of 45 Cards, on which are printed all the possible Combinations of Two Figures. In box. By H. R. SANFORD, Institute Canductor. Size 3¼ x 6 inches. Price 50 cts.

These cards need only to be seen, as the principle is familiar and accepted. The type, in *written* figures, is large enough to be seen across the room, and the combination on one side is given in reversed order on the other, so that as the teacher holds the card before him he knows the figures presented to the class. The pupil is taught to look upon the combination 4+9 as *itself* 13, not as "4 and 9 are 13," just as he looks upon DOG as an entire word, not as D-O-G. Success is certain if new combinations are introduced only after those already given are thoroughly learned. Reviews should be constant.

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With this apparatus every principle and rule can be developed, and the pupils can be led to deduce rules for themselves.

Many other expedients are resorted to, but they are all objectionable. Suppose a teacher takes a stick and breaks it in the middle, will the pupil perceive two halves of a stick or two sticks? In teaching fractions objectively, that should be taken for unity from which if a part is taken unity is destroyed. This is not the case with a stick or cube. Apples are objectionable for three reasons; first because they cannot always be obtained; second because they are perishable; and third, because the attention of the pupils is diverted by a desire to know whether they are sweet or sour, etc. Nor can the teacher readily saw wooden balls into divisions even enough for the purpose designed, the charm of this method being the *exact* presentation to the pupil's eye of the fact illustrated.

3. *A Manual of Suggestions for Teaching Fractions* especially designed for accompanying the above apparatus. By W. W. DAVIS. Paper, 12mo, pp. 43. 25 cts.

This accompanying manual gives probably the best arrangement of the subject into sixty lessons ever made, with practical suggestions which all teachers will find valuable.

4. *Cube Root Blocks*, carried to Three Places. In box. $1.00.

Our blocks are unusually large, the inner cube being two inches, and the additions each one-half inch wide.

5. *Numeral Frame*, with 100 balls, $1.25; with 144 balls, $1.50.

"Initiate children to arithmetic by means of the *ball frame alone*, thereby making their elementary instruction a simple and natural extension of their own daily observation," says Laurie, in his standard book on *Primary Instruction* (p. 112), and as he leaves the subject of arithmetic, he adds this note (p. 117), as if in fear he had not been sufficiently emphatic:

"The teaching of arithmetic should be begun earlier than is customary, *and always with the ball-frame.*"

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Helps in Teaching History.

1. A Thousand Questions in American History. 16mo, cloth, pp. 247. Price $1.00.

This work has been prepared by an eminent teacher for use in his own school—one of the largest in the State. It shows rare breadth of view and discrimination, dealing not merely with events but with causes, and with the side-issues that have so much to do with determining the destiny of a nation.

2. Helps in Fixing the Facts of American History. By HENRY C. NORTHAM. 16mo, cloth, pp. 298. Price $1.00.

Here all facts are presented in groups. The key-word to the Revolution, for instance, is LIBERTY, as shown in the accompanying table of *Key-Words;* and in like manner the events of the late civil war are kept chronologically distinct by the key-words SLAVES FREED. Chart No. 1 indicates by stars the years in each decade from 1492 to 1789, in which the most remarkable events occured, while the colored chart No. 2 arranges the events in twelve groups.

L—exington.
I—ndependence.
B—urgoyne's Surrender.
E—vacuation.
R—etribution.
T—reason.
Y—orktown.

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